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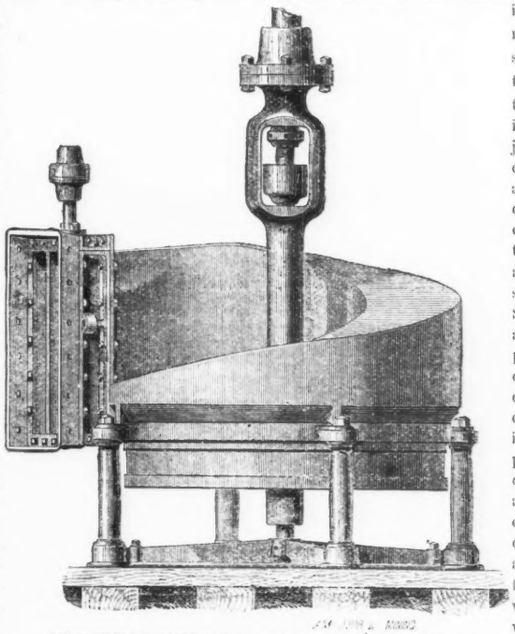
IMPROVED TURBINE WATER WHEEL.

Among other turbines claiming popular favor is the Helical Jonval, manufactured by J. E. Stevenson, 40 Dey street, N. Y., an excellent engraving of which we give this week. Great improvements have recently been made in this wheel, which the manufacturers claim have made it very powerful and economical, and at the same time durable, efficient and complete, excelling over-shots of the best construction and giving a higher per centage of power. It is in use in many of the best mills and factories in the Eastern and Middle States, and is found to produce good results when strong, steady power with economy of water is desired. May it not be advantageously used in our mining districts where water power is available? It is compact and portable, requiring no heavy fluming to set it in, its different parts accessible at all times, and its speed and power easily regulated. In another column, under the caption "Special Notices," will be found a certificate relative to its merits. Further particular may be obtained by addressing the manufacturer as above.



STEVENSON S IMPROVED TURBINE WATER WHEEL.

The Tin Trade of England.

Owing to the low prices which have prevailed for tin during the last two years, many mines have had to be abandoned which formerly paid dividends, and thousands of miners have been thrown out of employ. Within the last fortnight, however, a favorite change has taken place in the tin market, brought about chiefly by the decrease in the sales of banca, and the result has been a general advance in quotations by the smelters. This will materially benefit adventurers in the tin mines of Cornwall and Wales, and there are signs of improvement in some localities, steps having been taken to start mines which, for a long time past, have been at a stand still, in consequence of the unprofitable prices obtained for tin. It is estimated that the consumption of foreign tin during 1866 was 4,500 tons, against 3,000 tons in 1865, 2,009 tons the previous year, and 950 tons in 1861. This large increase is owing to the expansion of the tin plate trade, no less than two million boxes of plate having been turned out during the year 1866, which alone would consume upwards of 7,000 tons of tin in their manufacture. Last year the value of the tin plates exported reached £1,900,000, out of which the United States alone took £1,400,000 worth.—*Iron Trade Circular (Ryland's.)*

Extraction of Silver from Copper Ores.

Kocubly, in speaking of the extraction of silver from copper ores, at the Malden Smelting Works, near Freiburg, says that the process observed is an economical one. The copper stone, containing from 50 to 70 per cent. of copper, 8 to 15 per cent of lead, and 20 to 45 per cent. of silver, is stamped, sifted and roasted in a double furnace, with two hearths, one above the other, first in the upper hearth, and then in the lower one. During the first stage of the roasting, sulphides of copper are converted into neutral and basic sulphates, which are again decomposed during the second stage of the roasting, giving off sulphuric acids, and being, for the most part, converted into oxide of copper, while sulphate of silver, and a small portion only of the sulphate of copper, remains undecomposed. The roasted mass is again stamped, and mixed with from 4 to 8 per cent. of chlorade of sodium, and again roasted. By this means the copper is converted into chloride, and chlorine coumpounds of the other metals are also produced. After this roasting is finished, the mass is extracted in wooden tubs, under hydrostatic pressure. At first lukewarm water is used for this purpose, and when the greater part of sulphate of soda and other salts have been removed, a solution of chloride of sodium is substituted. This dissolves the chloride of silver into precipitating tanks containing copper, which is dissolved while the silver is precipitated.—*Jour. App. Chem.*

A New Explosive Compound.

M. Henri Adrien Bonneville, of Paris, has secured provisional protection for a new explosive compound. This invention relates to the manufacture of a new and improved explosive compound mixture by means of sulphate of lime and uric acid. These two substances are allowed to ferment during twenty-four hours, or thereabouts, and are then put into a recipient on a furnace, and subjected to an equal heat by placing at the bottom of the recipient a layer of sulphate of lime, about five inches thick, over which is poured a layer of the uric acid about half an inch thick; this latter substance becoming absorbed, triturate whilst hot, and granulate. The sulphate of lime, in its natural state, contains strontiane, but, should that used be without, some should be added.

Manufacture of Iron.

Letters patent have been granted to M. Jules Nicolas Fournel, of Faubourg St. Pierre, Nancy, France, civil engineer, for "improvements in the manufacture of iron and cast iron, and in the apparatus employed therefor." The invention consists in the process and apparatus for the manufacture of iron, and is as follows: The fuel, in a crude state—that is to say, not carbonized—is fed into a separate furnace, which may be of the form of a small blast furnace. The mouth or opening for feeding is closed during the intervals of the charges. The furnace receives near the lower part a current of air by one or several tuyeres; and the gas formed is collected towards the upper part in a pipe, and conducted to the tuyere or tuyeres of the ore furnace (which is also of the form of a small blast furnace); just before it reaches the tuyeres, the gas-pipe can be flattened and widened at the extremity, and the pipe for the compressed air by which the combustion is effected, is passed into the interior of the gas-pipe, and is subdivided at the extremity into a certain number of small jets, so as to cause the combustion of the gas in a manner somewhat similar to the laboratory blow-pipe. Several other arrangements may be employed, according to the nature of the fuel and the gas produced. By the hereinbefore stated means, the oxide of carbon of the gas burned and the carbon of the carbonated hydrogen are converted by combustion into carbonic acid, which, in rising in the furnace, and by its contact with the small proportion of fuel which has been added to the charge of ore in the manner before described, again produces oxide of carbon, a gas which effects the deoxidation of the ore, by absorbing oxygen, and being again converted into carbonic acid. The hydrogen contained in the gas fed to the tuyere is converted by the combustion into water steam. Thus, by employing gas charged with a certain proportion of hydrogen, a little above the air and gas tuyere, another tuyere can be used by which air would be left in the furnace, so as to effect by the elevation of the temperature the decomposition of the water steam by converting it into hydrogen and oxygen, thus producing a useful effect therefrom. The ore can also be reduced by the hydrogen, and it is no longer necessary to add coke to the charge, or the proportion could be still further reduced, but the metal would not be so pure; for, in leaving an excess of hydrogen in the burned gas, the temperature of the fire would be less elevated. Instead of introducing air in an upper tuyere, hydrogen could be injected without a current of air, or with a current of air insufficient to completely burn it; the excess of hydrogen will serve for the reduction. The metal obtained in the crucible by the high temperature resulting from the combustion of the gases will be pure iron, or a metal approaching the quality of iron, which will give less waste than cast iron in the immediate or subsequent processes or refining. Thus, by the employment of gases, a temperature high enough is obtained to obtain liquid iron, whilst a current of air acting on the solid fuel cannot produce a higher temperature than that necessary to melt the cast iron or steel.—*Col. Guardian.*

Irruptions of Fire-Damp in Coal Mines.

In a notice of Mr. Ansell's ingenious indicator given a few weeks ago, we spoke of sudden irruptions of fire-damp to such an extent as to render the air of even a mile in extent explosive in a few minutes. There are very many recorded cases of sudden irruptions of fire-damp in such quantities as to far surpass the amount quoted in our recent aritcle ; but, as Mr. Holland, in our last number, raised the question, and appeared to consider that such cases, even if occurring, were at all events very exceptional, we propose to give the subject a greater consideration. We quote from a paper written by Mr. John Brown—who is admittedly the most trustworthy mining engineer in South Yorkshire—and we think that the following cases are in point as regards Mr. Holland's communication. Speaking of an explosion which occurred at the Shipley colliery in 1851, he says : "It was known that the coal and the strata in connection with it yielded fire-damp, but no great quantity had manifested itself until August 8th, 1851, when an explosion took place in the evening, whereby several persons were burned, &c. * * * In a few minutes afterwards this was followed by an explosion at the furnace." Upon examination it was discovered that the floor in one of the stalls "had been violently upheaved ; one side of the tramway which crosses the face of the workings being raised nearly two feet higher than the other, and fire-damp was issuing in large quantities from the fissures. It being night the gas had passed until it came in contact with a candle. After exploding here a sufficient quantity passed to the furnace to produce a second explosion." After detailing two other sudden irruptions, the writer goes on to express an opinion "that no amount of ventilation that could be produced in that mine would prevent an explosion either at a naked light, or at the furnace, or at both." Again, in speaking of the Oaks colliery, at Barnsley, he says : "In January, 1857, a large quantity of gas was given off suddenly in the dip works ;" he thinks from the roof. He continues : "The men in this district immediately retired, their lamps being extinguished. No person was working at that time near the upcast pit, so I am unable to state in what condition the return air was when it arrived at the pit ; but it must have been very much charged with fire-damp." Again : "In August of the same year a very much larger issue of gas took place in a bank in the dip workings, coming off from the floor, which was much heaved up and broken. The noise made by the gas rushing violently was quite alarming. From the point of issue, which was in the bank nearest to the intake, to where the last man was working was about 400 yards ; and along this line part of the men were working with Stephenson's and the remainder with Davy's. The whole of the former were extinguished, and the latter became red hot before the wicks could be drawn down, but most fortunately they were put out without an accident." "There can be no doubt," says Mr. Brown, "that if the return air had passed over a furnace, an accident of a frightful character must have happened." Once more, speaking of the Oakes colliery in September 1858, the author from whom we have so freely quoted says : "Early in the morning the man whose duty it was to examine the pit prior to the colliers going to work, discovered that a fall of roof had taken place on the south side of the pit. The gas continued to come off rapidly for four or five hours. I made some calculations at the time which convinced me that at least as much pure fire-damp came off that morning as would have filled a heading six feet square and a mile and a half long ; probably there was much more than this." Such an amount of pure fire-damp diluted to the explosive point would in twenty minutes or less render a mile perfectly explosive, but, as a more recent case, Mr. Ansell has recorded that he was present in a pit when an enormous amount of gas suddenly issued, having been released by blowing out a block of coal which stood square and up to his waist —he believed considerably more than a ton—and, at a distance exceeding 400 yards, heard this gas roaring in such a manner as to cause alarm ; upon reaching the spot he found that the gas was issuing from a funnel-shaped opening, into which he thrust his arm up to the shoulder. It is admitted on all hands that the gas issues from great reservoirs under considerable pressure, but Mr. Ansell seems to have satisfied himself that it exists in a liquid state, and he has seen cavities in which he thinks it is more than probable the liquid was retained.—*Chemical News.*

The Lynchburg (Va.) *News* says : The New York Company that purchased Captain E. Echols' sand and iron ore bank, near the mouth of North river, in Rockbridge county, are prepared to ship five hundred barrels of sand per month, and contemplate the erection of a furnace on the North River canal. The sand is as white as snow, and is used in the manufacture of the finest plate and cut-glass. It is so fine that it yields ninety-six per cent. of silica. Eleven dollars a barrel has been offered by a Northern glass house for a thousand barrels of it. Why can't the glass be made profitably on the spot?

Original Papers.

[WRITTEN FOR THE JOURNAL OF MINING.]

NOBLE METALS.

By FRANCIS E. ENGLEHARDT, Ph. D. Professor of Chemistry in St. Francis Xavier's College.

Continued from Vol. II., page 347.

In the last paper on the noble metals, we considered the northern portion of our continent, in this we will speak first of the southern portion.

About twenty years after the conquest of Mexico, Peru was brought under Spanish rule by the Pizarro's and their followers. The Spaniards found the inhabitants of the country, like those of Mexico, in possession of gold and silver ; and the latter metal was extracted from its ores by the natives, by melting together in portable clay furnaces, pierced with many small holes, silver ore, galena and charcoal. The mass thus obtained was remelted, and the heat of the fire increased by the blowing of air into the furnace through copper tubes two yards long, by ten to twelve Indians. The Spaniards landed, in their last expedition to Peru, in the Bay of St. Matthew, where they found, in an Indian village, in the province of Coague, large quantities of both metals worked in the shape of ornaments, and many precious stones, especially emeralds, one of which was as large as a pigeon's egg. Atahuallpa, the Inca of Peru, after being taken prisoner by the Spaniards, promised them, as his ransom, to bring together in two months, sufficient articles of gold to fill a room of twenty-two feet long, seventeen feet broad, and nine feet high. This he really did. The messengers sent out brought with them 200 loads of gold. The melting and casting in ingots of this mass required one month's labor, day and night, on the part of the Indiar jewelers, and it amounted to 1,326.539 *pesos de oro*, which would be equal to about 15,500,000 dollars in our coin now. The silver was estimated at 51,610 marks. Prescott says : "History affords no equal to such booty." Pizarro had, for his share, 57,222 *pesos de oro*, 2,350 marks of silver, and the great chair of the Inca, of solid gold, valued at 25,000 *pesos de oro*. The imperial palaces were thickly studded with gold and silver ornaments ; the niches in the walls were filled with images of plants and animals, variously wrought in gold and silver. Pizarro's emissaries found the great Temple of the Sun literally covered with plates of gold (700 in number) ; the royal Manca were seated in golden chairs, and a cornice of pure gold encircled the building, so well set in the stones that it could not be taken off. All the articles employed in the performance of the religious ceremonies were either of gold or silver. Twelve immense vases of silver stood on the floor of the great hall. The censers, the basins which held the water for the sacrifice, the water-pipes, the reservoirs receiving it, and even the agricultural implements used in the gardens were of silver. The plunder of Cuzco is estimated at $2.000.000, according to Herrera. When an Inca died a quantity of his riches was buried with him, consequently, the sepulchres of the Peruvians, as Sarmiento related, contained often precious metals to the amount of 100,000 castellanos. La Casas informs us that treasures worth more than half a million of ducats had been found within twenty years after the conquest, in the tombs near Truxillo. Humboldt has visited the sepulchre of an Indian prince, from which a Spaniard, in 1576, took a mass of gold and silver ornaments worth one million dollars. An anonymous author relates the following story : "It is a well-authenticated report, that there is a secret hall in the fortress of Cuzco, where an immense treasure is concealed, consisting of the statues of all the Incas wrought in gold. Dona Maria de Esquivel, wife of the last Inca related, that her husband, Don Carlos, took her to a a large quadrangular hall, where, ranged on benches round the walls, she beheld the statues of the Incas, each of the size of a boy twelve years old, all of massive gold. She saw also many vessels of gold and silver. In fact, it was the most magnificent treasure in the whole world." When the treasure in the capital was brought together into one heap, (with the exception of a few of the finer-worked specimens taken from it for the crown) and melted and cast in ingots, it exceeded, according to some, the ransom of Atahuallpa, but Pedro Pizarro says that each horseman got 6000 *pesos de oro*, and each of the infantry 3000 *pesos de oro* (480 soldiers); and Sancho, the royal notary, states it at 580,000 *pesos de oro* and 215.000 marks of silver. The quantity of gold and silver concealed by the natives, must have, according to the testimony of one of their princes, far exceeded that which fell into the hands of the conquerors. The natives gathered the gold from the deposits of the streams, the Valley of Carimaga, and many other places—the silver, especially, from the mines of Porco. They sunk no shafts, but merely made excavations in the steep sides of the mountains, or opened horizontal veins of a moderate depth. The main mines which were worked, before the discovery of Potosi, in Peru, were in the provinces of Porco, Carangas, Oruro, Carabaya, and La Paz, but their yield is uncertain. It is estimated that Europe received from the new continent, from its first discovery until the discovery of Potosi (sixty-three years), £17,058,000 in noble metals, or an addition of fifty per cent. to its stock.

The mines of Potosi were accidentally discovered, according to Herrera, by an Indian hunter, Diego Hualoa, who, by pulling up a shrub, observed fine filaments of silver. In the first few years after the discovery, the produce exceeded anything ever heard of. The annual yield from 1556 to 1578 was about £440,000, as may be inferred from a grant of Charles V. Humboldt estimated the product from 1579 to the end of the sixteenth century, at $1,389,859 annually. Chili produced gold as early as 1539, and, in Brazil, the Portuguese, since 1546, procured gold by washing. In short, the quantity of the noble metals sent to Europe from the discovery of America until the year 1600, is estimated to have exceeded the quantity then possessed by Europe, five times. In Buenos Ayres and Bolivia mines were also opened in the seventeenth century. About the same time, the silver mines of Yauricocha or Tasco, in the more northern part of Peru, were opened, and yielded large quantities of the metals. In Chili both the Spaniards and Indians washed gold from the sand of those streams that descended the Cordilleras. New Granada produced considerable gold but no silver. The main quantities of gold were taken from the vallies between the central and western Cordilleras, especially in the province of Topayan. Towards the close of the seventeenth century the mines in the province of Ohoco were worked, which, at a later period, produced enormous quantities of gold. In Mexico, between the fifteenth and sixteenth centuries, the increase was mainly in silver. Zava, Sevaz, and the other mining districts, increasing the yield of that country from two millions to nearly five million piastres. About 1630 the mines of Guanascuato were opened, and Mexico yielded gold as well as silver.

[PREPARED FOR THE JOURNAL OF MINING.]

A NEW CHEMICAL NOMENCLATURE,

By SAMUEL DYER TILLMAN, A. M., Professor of Technology at the American Institute of the City of New York.

[No. IV.—Continued from Page 43.]

All the types previously enumerated may be regarded as subtypes, embraced in a regular series of types consisting of condensed molecules of hydrogen according to the suggestion originally made by Hunt. In the following table, containing several new types, the condensed hydrogen molecules are connected

with the types of substantially the same significance by the mathematical symbol of equivalency. Atoms in brackets in the first series are replaced by other atoms in the second.

RATIOS.	HYDROGEN MOLECULES.	OLD NAMES.	NEW NAMES.
1 : I al-[al]	HCl,	Hydrochloric acid	= alad.
2 : I el-[el]	H_2O,	Water	elat.
3 : I il-[il]	H_3N,	Ammonia	lian.
.. : 4 [o]-o]	CH_4,	Marsh gas	arol.
I : 5 ul-ul	PCl_5,	Pentachloride of phosphorus	apud.
I : 6 [eel]-eal	CrF^6,	Perfluoride of chromium	chrameaf.
I : 7 [eel]-eel	$MnCl^7$,	Perchloride of manganese	= manameed
I : 4 ol-ol	CH^3H,	Hydride of methyl	achal-al)
II : 6 eal]-eal	C^2H^5H,	Hydride of ethyl	echal-al)
III : 8 eil]-eil	C^3H^7H,	Hydride of propyl	ichal-al)
IV : 10 eul]-eul	C^4H^9H,	Hydride of butyl	uchal-al)
V : 12 yel]-yel	$C^5H^{11}H$,	Hydride of amyl	uchal-al)
VI : 14 yol]-yol	$C^6H^{13}H$,	Hydride of caproyl	eachal-al)
VII : 16 yeal]-yeal	$C_7H_{15}H$,	Hydride of œnanthyl	eechal-al)
VIII : 18 yeil]-yeil	$C^8H^{17}H$,	Hydride of caprayl	eichal-al)
XII : 26 weal]-weal	$C^{12}H^{25}H$,	Hydride of lauryl	oichal-al)
XVI : 34 [xol]-ixol	$C^{16}H^{33}H$,	Hydride of cetyl	auchal-al)
XXVII : 56 uxeal]-uxeal	$C^{27}H^{55}H$,	Hydride of ceryl	weechal-al)
XXX : 62 [eaxe]-eaxel	$C^{30}H^{61}H$,	Hydride of melissyl	(wouchal-al)

It is evident that the so-called "atomicity" does not prevent the union of atoms in a regular progressive series of ratios. In such cases the, atom-holding energy has different degrees of development as the result of the reflex influence of combination. Apparent abnormal action, for instance, in the case of I^2O^7, *eveet*, may be accounted for by supposing an even number of atoms of oxygen, O_6, in alternately opposite polar conditions, to be united with I^2O. When mercury and chlorine form calomel, *mercamad*, the anomaly is explained by the fact that the volume of the compound corresponds with that of a molecule of hydrogen; thus, in this, as well as the case of the hydride of copper, *cupa mal*, a dyad metal plays the part of a monad.

The new names of acids and salts, of simple as well as intricate construction, are so framed that they may readily be resolved into syllables expressing their typical relations. This is accomplished by making the replaceable hydrogen of an acid the prefix which determines the type on which the compound is constructed, as explained previously in speaking of acetic acid. The typical name of an acid or salt embraces, in fact, three terms; the first consists of the replaceable hydrogen, the second is another portion of the compound of equal equivalence to the first, and the remaining oxygen atoms will constitute a third term, having the atomic equivalence of the first and second terms combined. In chemical reactions, the second and third terms generally remain unchanged, and may therefore be included as one name, and the whole name may be said to represent the combination of a radical with a torso. Examples:

Nitric acid,	"monatomic"	[al'-anet']at''	= al-anit.
Sulphuric acid,	"biatomic"	[el-''aset'']et$_{iv}$	= el-asot.*
Phosphoric acid,	"triatomic"	[il'''-apt''']it$_{v}$i	= il-apot.

The halogens are powerful electro-negative elements. Having the best structural adaptability, as monads, they are found among the components of many bodies. Those well investigated may be estimated in round numbers thus: Chlorides 750, iodides 320, fluorides 190, bromides 150; to which may be added another class of very similar structure, the cyanides 220: total 1630. In this estimate, several hundred chlorhydrates, bromhydrates, and iodhydrates are not included. Their new names will be so readily understood, it is only essential to present such examples as will explain the changes required by the atomic notation and the typical classification.

MONAD TYPE.

Hydrofluoric acid	HF	alaf:	Fluoride of thallium	Thalamaf.
Hydrochloric acid	HCl	alad:	Chloride of sodium	Sodamad.
Hydrobromic acid	HBr	alab:	Bromide of ammonium	Olanab.
Hydriodic acid	HI	alav:	Iodide of potassium	Potamav.
Hydrocyanic acid	HCy	alarn:	Cyanide of silver	Argamarn.

DYAD TYPE.

Fluor spar	Calcamef.	Corrosive sublimate	Mercamed.
Chloride of thorium	Thoramed.	Bromide of cadmium	Cadameb.
Bromide of yttrium	Yttrameb.	Iodide of zinc	Zinamev.
Cyanide of iron	Ferramern.	Cyanide of magnesium	Magamern.

TRIAD TYPE.

Fluoride of arsenic	Arsamif.	Chloride of antimony	Stibamid.
Bromide of gold	Auramib.	Iodide of bismuth	Bisamiv.
Bromide of nitrogen	Anib.	Solid chloride of cyanogen	Irnid.
Fluoride of boron	Ajif.	Bromide of boron	Ajib.

TETRAD TYPE.

Perfluoride of titanium	Titamof.	Perchloride of tin	Stannamod
Perbromide of tellurium	Tellamob.	Periodide of platinum	Platamov.
Perchloride of tantalum	Tanamod.	Percyanide of palladium	Pallamorn.

PENTAD TYPE.

Pentachloride of antimony	Stibamud.	Quinquiodide of arsenic	Arsamuv.
Pentabromide of phosphorus	apud.	Quinquebromide of iodine	avub.
Quinquiodide of tetraethyl-ammonium	echalom-anuv.		

HEXAD TYPE.

Perfluoride of vanadium	Vanameaf.	Periodide of tellurium	Tellameav.
Perchloride of molybdenum	Molamead.	Perfluoride of chromium	Chrameaf.
Perbromide of tungsten	Wolameab.	Perfluoride of silicon	Akeaf.
Perfluoride of selenium	Azeaf.	Perbromide of silicon	Akeab.

SUBTYPE, or RADICAL TYPE.

Chloride of aluminium	Alemead.	Perchloride of iron	Ferremead.
Perchloride of cerium	Ceremead.	Perfluoride of ruthenium	Ruthemeaf.
Perfluoride of glucinum	Glucemeaf.	Chloride of osmium	Osamead.

HEPTAD TYPE.

Perchloride of manganese	Manameed.	Perfluoride of manganese	Manameef.

The sulphides, selenides and tellurides resemble in constitution the oxides. From nearly 300 well-known sulphides, the following are selected:

Sulphuretted hydrogen	elas	Persulphide of hydrogen	elus.
Bisulphate of carbon	ares	Bisulphide of nitrogen	enes.
Monosulphide of potassium (old name) KS = K^2S			Kalemas.
Monosulphide of mercury (cinnabar)			Mercmas, or Hygamas.
Bisulphide of iron (pyrites)			Ferrames.
Tersulphide of gold			Auramis.
Quadrisulphide of molybdenum			Molamos.
Pentasulphide of antimony			Antamus or Stibamus.
Sesquisulphide of rhodium			Rhodemis.
A magnetic iron pyrites (with no systematic name)	Fe^3S^4		Ferrimos.
Another variety of pyrites, Fe^7S^8 (no name)			Ferreemeis.

The next table contains the known combinations of oxygen with sulphur, forming oxides and acids:

Sulphurous anhydride	aset.	Hyposulphurous acid	elesit.
Sulphurous acid	elasit.	Hyposulphuric acid	eleseat.
Sulphuric anhydride	asit.	Trithionic acid	eliseat.
Nordhausen sulphuric acid	aleseat.	Tetrathionic acid	eloseat.
Sulphuric acid (oil of vitriol)	elasot.	Pentathionic acid	eluseat.
Trithionic anhydride	isut.		

In these acids or salts of hydrogen, *el* may be replaced by a dyad metal, or, atom for atom, by a monad metal, thus forming metallic salts.

From nearly 700 known varieties of sulphates, the following are selected:

Sulphate of protoxide of iron	fermasot.	Sulphate of copper	cupmasot.
Sulphate of magnesia	magmasot.	Sulphate of baryta	barmasot.
Sulphate of soda	natemasot.	Sulphate of lithium	lithemasot.

Of nearly 200 sulphites, only two will be mentioned:

Sulphite of cerium	cermasit.	Sulphite of potash	kalemasit.

From nearly 200 carbonates, only the following are selected:

Carbonate of lime	calcmarit.	Carbonate of magnesia	magmarit.
Carbonate of soda	natemarit.	Bicarbonate of soda	natmalarit.

Of 300 oxalates, only two are here cited:

Oxalate of baryta	barmerot.	Salt of sorrel	potmalerot.

From 100 varieties of silicates, only the following will be noted:

Silicate of alumina (sillimanite)	Al^2SiO^5		alemakut.
Silicate of alumina (kaolin)	$Al^2Si^2O^7$		alemekeet.
Silicate of potash	potemakit.	Silicate of lime	calcmakit.
Silicate of magnesia	magmakit.		

From about 50 nitrites only two are presented:

Nitrate of soda	sodmanet.	Nitrate of strontia	stronmenot.

From 400 varieties of nitrates, the following are selected:

Nitrate of potash	kalmanit.	Nitrate of silver	argmanit.
Nitrate of uranium	urmeneat.	Protonitrate of iron	fermeneat.
Nitrate of sesquioxide of iron	$Fe^2O^3N^6O^{15}$,		ferremeanoot.

Of 370 phosphates, only the following:

Triphosphate of lime (in bones)	$Ca^3P^2O^8$	calcimepeit.
Acid or Superphosphate of lime	$CaH^2P^2O^8$	calcmelepeit.
Bibasic phosphate of lime	$CaHP^2O^8$	calcemalepeit.

* "*Asot*" is the "sulphion" used by Graham and others in explaining the salt-radical theory. Sulphion is a torso, having no seperate existence. The new and shorter name "asot," shows that it contains four atoms of oxygen and one atom of sulphur.

From 90 sulphocyanides, only one will be mentioned:

Sulphocyanide of mercury.....$HyCy^2S$.....mercemernas.

A few other terminals of salts may be thus briefly enumerated, a monad metal being denoted by *am*:

210 tartrates.....em-orleat.	40 chlorates have the terminal.....amadit.
60 malates.....em-orlut.	60 iodates have the terminal.....amavib.
100 citrates.....im-earuleet.	330 chlorhydrates have the prefix.....ald.
120 chromates.....em-chramot.	50 bromhydrates have the prefix.....alb.
270 chloroplatinates.....am-platamid.	100 iodhydrates have the prefix.....alv.

Ferro-cyanhydrates or -cyanides.....em-ferramirn.

Ferri-cyanhydrates or -cyanides.....im-ferremearn.

[TO BE CONTINUED.]

Mining Summary.

GOLD AND SILVER.

Nevada.

The Comstock—Since our previous report, says the San Francisco *Mercantile Gazette*, of March 18th, more than usual activity prevailed in the stock market, and large sales of leading shares have been made at an enhanced price. At latest dates the roads leading from the mines on the Comstock lode were still in a very bad condition, and the ore had accumulated at the dumps to such an extent as to prevent raising at several shafts. The present fine weather will probably so improve the roads as to allow work to proceed without further interruption of this nature, and we confidently look for larger returns a month hence. At a meeting of the trustees of the Crown Point company, held on the 11th inst., $75,000 were subscribed to the Sutro Tunnel. This subscription, as well as those heretofore enumerated, is contingent upon the full amount of stock, $3,000,000 in currency, being taken. The Chamber of Commerce and the Mechanics' Institute, of this city, are also moving in this matter, and have appointed committees to take action in regard to this enterprise.....No sales of Hale & Norcross transpired during the period under review; it is nominally quoted at $3,000 per foot. During the month of February this company had 2,628 3-4 tons of ore reduced, which yielded $108,215 92, showing an average of $41 16 per ton. They have also reduced 39¾ tons of first-class ore, yielding $9,423 52. On the 4th inst. the new shaft had attained a depth of 145 feet. A dividend of $125 per foot was disbursed to the stockholders on the 15th inst. The annual meeting of this company has been postponed to Wednesday, the 27th inst.....Savage has been well maintained, opening at $1,920, advancing to $1,940, then selling at $1,900@$1,910, and closing on the 16th at $1,830. During the week ending March 9th, little work was done in the mine—only 213 tons of ore were extracted, showing an assay value of $54 56 per ton. We learn that a very material improvement is noticeable in the quality of ore taken from the south winze, at a depth of 110 feet below the second station from the Curtis shaft..... Crown Point has met with little inquiry, opening at $890@$880, improving to $900@$912 50, then selling at $850, ex-dividend, and closing on the 16th at $8.5. No ore was raised from the mine during the week ending March 9th, owing to the large supply at the dump, and the great difficulty of hauling it away, on account of the bad condition of the roads. Operations were resumed on the 11th instant. It is said that the work on the fifth station is progressing finely, the west drift from the shaft being in eight feet, and the east drift ten feet. During the month of February 2,922 tons of ore were taken from the mine, and 3,300 tons were reduced, producing $129,850 in bullion, equal to $39 35 per ton. This company carries over a cash surplus of about $70,000 after the payment of an $80 dividend to its stockholders on the 15th instant.....Yellow Jacket has been largely dealt in at an advance from closing quotations on the 7th inst., steadily improving from $755 to $832 50, then realizing $830, and at the close selling at $835. From the February statement of the operations of this company, we glean the following: Bullion product, $117,488 97; earnings from other sources, $6,875 45—total, $124,364 42. The ordinary expenses are set down at $123,135, and the extraordinary at $2,866 55. The principal items were, on account of labor, $29,230, and crushing ores, $73,653. The supplies on hand and paid for are valued at $19,000. The winzes, both in the north and south mines, on the lower level, are reported to look well..... Gould & Curry declined from $475 to $460, and on the 16th inst. sold at $465. Work on the main shaft continues to be steadily prosecuted, and it is expected that the sixth station will be opened in less than a month hence. The supply of ore at the dumps is quite large, but the impassable condition of the roads prevents transportation, in consequence of which the mill has been stopped for several days. The bullion receipts to date aggregate about $33,000.....Chollar-Potosi continues to be in demand, some 900 shares changing hands within the past nine days, selling at $252, rising to $258@$260, falling to $249@$245, rallying to $248, and closing on Saturday at $250. At present a limited amount of work is done in the mine—principally in the Blue Wing and old Santa Fé stations, both of which are said to look well. The winze cave from the 668-foot level, new shaft, had not been penetrated at latest mail dates. We learn of nothing new in regard to the other drifts from the new shaft.... Ophir advanced from $222 to $240, dropped to $230, rallied to $237@$238, receded to $233, and closed at $225. Advices to the 11th inst. state there is no change in the eighth station, and that on the ninth station they are leaving the clay and going into the "west country." No change in the east drift from the tenth station.....Imperial continues in request at improved rates, advancing from $197 50 to $200, closing at $205, ex-dividend. This company disbursed a dividend of $15 per share on the 16th. We have no change to note in the present good condition of the mines of this company. Roads are gradually improving, and 100 tons of ore per day, it is said, are now being shipped to the mills.....Empire sold at $182 50@$185, then at $170, ex-dividend, and on Saturday at $173, b. 30. This company paid a dividend of $10 per share on the 15th. Belcher sold within range of $115@$122 50, closing at $109. Bullion at $12@$28, assessment unpaid. Confidence at $11, then at $35@$37, assessment of $25 per share delinquent. The bullion returns of this company during the month of February amounted to $11,398 74. .....Dancy has been out of the market for some time past, but at the close sold at $12 50@$17, an advance of $8@$11 over our previous quotations. The annual meeting of the stockholders of this company has been postponed to Monday, April 1st, 1867. Overman, heretofore so largely dealt in, seldom makes its appearance in the market; a few sales were made at $12 to $13 50, seller 30..... On Saturday afternoon, says the *News*, March 18, we were among the mines of Gold Hill. We found a large amount of rock on hand at all of them. At the Crown Point, Kentuck and South Yellow Jacket, the ore is taken from a depth of from three to five hundred feet, and is known as the white rock, containing black sulphurets and chlorides. The ore from each of these mines is as good as has ever been taken from them at any time since they were first opened. In the other mines of Gold Hill the ore taken out is generally called surface ore, coming from the depth of 150 feet up to the surface of the ground. This ore is of a deep red or mahogany color, and contains more gold in value than silver. Some of the bullion is worth five and six dollars per ounce. There will probably be but little done in any of the lower mines from the Yellow Jacket to the Bullion, until the new shaft of the Imperial and Empire is down, and the work begins from that quarter, which will be during June or July. Certain knowing ones have lately found out that the mines of Gold Hill and Virginia are about petered out. The Hale & Norcross has only six inches of pay ore. The Crown Point entirely closed out, etc.

Wilson District—The Gold Hill *News*, March 18th, says: We learn from Mr. Flemming, who has been sojourning for the past six months in Wilson District, and is one of the oldest quartz miners in the State, that this district will prove a rich mining region. During the winter himself and Mr. Duel went some three miles southeast from the Wilson claim and found a large lot of loose quartz boulders, which seemed to have been carried there by a snow-slide from the mountains, but the heavy fall of snow at that time prevented them from prospecting in the mountains to see from whence it came. A few weeks since, however, the snow melted away, and with all the necessary equipments, they proceeded to prospect for the ledge, which was in a short time found. It proved to be fifty feet wide, and prospects well in gold on the surface for the whole width. The ore resembles the Comstock top rock in every particular, and Mr. Flemming is of the opinion that at a greater depth it will prove to be a silver ledge instead of a gold-bearing one. On the east wall of the ledge there is a clay seam, next to which is a decomposed stratum twelve feet wide, then a stratum of about the same width of mahogany colored rock, and the balance is of a blueish color, and resembles Imperial ore. The district will be extensively developed this summer. The *Enterprise*, March 11th, says: A gold bar, the first from Pine Grove, Wilson District, is to be seen at the California Bank. It is the result of the first crushing of ore from the Wilson lead in Capt. Pray's new mill. The bar weighs 739.60 ounces, and by assay at Ruhling & Co.'s, the gold is shown to be 914½ fine, worth $18 90 per ounce. This is the finest gold ever found on this side of the Sierra Nevada mountains. The value of the large bar and two small specimen bars (containing about $40 each), is $2,620 38. There is still what was saved in the sluices upon blankets to come in from the mill. Altogether the yield will be about $13 or $14 per ton—sixty-eight tons of ore having been worked.

Humboldt—From the Unionville *Register*, March 16, we take the following items: Sixty pounds of ore lately taken from the Monroe mine, in Sierra District, and worked in a mortar, yielded $362 80, or at the rate of a little over $12,000 per ton in gold. Yields of this kind are often met with in working "pocket veins," and are not then regarded as an index of the value of the lode from which they are taken. In veins of that class the gold is aggregated in small masses or clusters called pockets. The Monroe, however, is a sulphuret vein, the ore being distributed throughout the entire lode of quartz and vein matter between the walls or casings, and increasing regularly in richness and extent as depth is attained, but the heaviest deposits of rich ore are not looked for until the water level is reached.....Mr. Torrey is progressing rapidly with his furnaces. He has a beautiful and most convenient location, about a mile below Ena, and in three or four weeks he will have his furnaces in full blast. He has five hundred tons of ore out, and has a large force at work in his mines, and expects to keep his furnaces running day and night all summer. To this end he is making extensive preparations. He will also erect a free bridge across the Humboldt, near his works, this spring. Mr. Torrey is one of the most industrious and energetic men we have ever known. Whatever he undertakes he puts through; the word "fail" he never learned, and "can't" is not in his dictionary. In less than two months Oreana will have to look to its laurels, or Torrey will carry off the palm..... The new mines are located in Big Meadow District, eighteen miles below Oreana, and two miles west of the line of the Pacific Railroad. All with whom we have conversed, who have visited these mines, speak well of them. Sufficient developments have not yet been made to pronounce final judgement on them. One thing is certain, there is plenty of ore, and easy of access, more so than in any other district. It yet remains to be determined whether the ore is sufficiently rich. Some good assays have been made, yielding several hundred dollars to the ton, while others have made assays of the same character of ore and found nothing. Several parties have gone to work in earnest in these mines, and we hope their most sanguine expectations may be realized..... We learn from T. S. Northup, the Superintendent, that the Humboldt River Gold and Silver Mining company has purchased the renowned Monroe mine, located near Dun Glen. Mr. Northup left for New York last Wednesday, to return with his family in May, accompanied by Mr. Ricord, a large shareholder in the company. It is his intention to erect a mill at once. We congratulate this company on their certainty of success. They have one of the best mines in the country, and, for a Superintendent, the right man in the right place. Mr. Northup is an energetic, thorough-going business man, and we have no doubt but what in a short time he will ship bullion by the thousands weekly, if not daily. .....William Sanchez, an old Mexican miner, has found the wonder of the age, in the shape of a quartz ledge, which he has named the Esperanza. It is located in the foot hills east of Humboldt Lake, seven miles above the Utica mill. The ledge is 200 feet wide on the surface, and crops out for 1000 feet in length and at places 100 feet above the surface of the ground. It is solid quartz containing sulphurets of iron, copper and silver. Mr. Sanchez has great faith in it, and has gone to work to see what he can find. He says such a ledge in Mexico would be worth half a million of dollars.

Reese River.—We are indebted to the *Reveille* for the following items: The Florida has made its report for the month of February. It is very simple, but full of pith. It comprises twenty bars of fine silver; bars which may render time sweet and produce the most eloquent notes. These twenty substantial bars were obtained from fifty-two tons of ore, which were extracted from the mine during the month of February. They were sent to mill and had to wait their turn. In value they represent $20,126 75 of the standard coin of the United States. This is an average of precisely $387 05 per ton. Had not the lot of ore been debased it would have given a nobler average. Included in the fifty-two tons were several tons of siftings—fine particles of rich ore mixed with pulverized granite—which greatly reduced the average yield of the first class ore. Had they been kept separate, the average yield of the first class would have exceeded $425 per ton. As it is, the average yield of that number of tons will be regarded as wonderful. It fairly entitles the little Florida to the silver belt. The ore was very closely reduced at the Keystone mill, and the bullion was melted and assayed by Currie. The sweet little Florida must grow in the affections of its stockholders. It strides in the right direction. Its march is onward and upward. See how rapidly it advances from good to better. The first shipment of bullion made by its superintendent, Major Sherman, amounted to $6,447 85; the second (for the month of January) to $12,531 95; making an aggregate sum of $19,979 80, which is $1,146 95 less than this third and last and greatest shipment.

.....Here is the history of a Reese river mine in a nutshell. The Great Eastern was located on the third of April, 1863, by the Shoshone company. From that date until the close of 1865 it was worked through an incline, from which was obtained small amounts of wonderfully rich ore, the finest quality of which was sent to the famous reduction works of Swansea from San Francisco. About this period a change occurred in the manner of working the mine. A vertical shaft was undertaken a few hundred feet east of the incline, on which was erected a house and powerful hoisting apparatus. The shaft was sunk to the depth of 150 feet, at which point levels were run and the extraction of ore commenced. How well the mine yielded ore of the finest quality the following figures from an official source will serve to show: Amount of ore extracted from June 1st, 1866, to January 31st, 1867, 800 tons; assay value of this amount of ore, $211,217; amount of bullion yielded and shipped per Wells, Fargo & Co., $183,667; cost of reducing 800 tons, $37,363; loss in working, $27,550, or 15 per cent., which went up the chimney or down the stream. These 800 tons were extracted from a depth of 150 to 350 feet. The average yield per ton of this large amount is $229 58, which exceeds by $200 per ton the average yield of the ore procured from the Comstock during the year 1866. In the earlier working of the Great Eastern, and down to the opening of the shaft, the ore which had been extracted yielded about $30,000. This little history of the Great Eastern recalls the tale of the cave of Aladdin, in which was hidden the wonderful lamp.....We are informed by Mr. John Helm, superintendent of the Whitlatch Union and Camago of the Reese River Consolidated company, that the chimney lately developed in the Camargo is much more extensive than was at first supposed. Indeed, to the depth of 80 feet the mine appears to be all chimney, as it has been traced to the length of 800 feet. This large body of highly concentrated ore, usually called a "chimney," comprises the entire claim, and will require several years to be worked to the depth of 80 feet. The ore taken from the greatest depth of the deposit is of mixed chloride and sulphuret, while that from above is a high grade of chloride. Thirty tons of this superior ore are now in the house, and will be sent to mill immediately for the purpose of ascertaining its actual value. The lower workings on the Whitlatch Union and the Camargo were very promising at the moment they were stopped, and in the judgment of Mr. Helm, a few feet deeper would have revealed the vein of the former. He has had charge of these mines for a long time, and in a series of explorations which he has systematically conducted to determine the extent and character of a baffling fault, he has become familiar with every foot of their chambered depths. His zeal is unabated, and he entertains the fullest confidence that the mines under his care are not surpassed in the district.....Yesterday afternoon, on the invitation of Major Sherman, we visited the summit of Lander Hill for the purpose of observing the progress of the grand shaft of the New York & Austin company, known as the Sherman Shaft. The work is located on the hill west of the second ravine dividing it from Mount Prometheus, and overlooks the larger portion of the surrounding country. The shaft is fifteen feet long by five feet wide, which space is divided into three nearly equal compartments, that for the pump and ladder-way being the largest. In just four weeks the shaft has been sunk to the depth of sixty feet, and timbered with three-inch plank for fifty feet. At the depth of forty feet below the surface a small vein of quartz was cut, which assayed at the rate of $29 per ton. In the bottom of the shaft another vein is developed, in which there are several thin strata of quartz. Lander Hill is a net-work of silver-bearing veins, and there is good ground for believing that long before the thousand feet has been reached, which is the contemplated depth of the shaft, a number of veins of mineral will have been cut, many of which may prove to be more valuable than those developed on the surface. Some 290 feet in the shaft will reach the level of the croppings of the Florida, which is 950 feet further down the hill. This grand shaft of the company will be pushed into the hill without cessation until the end is accomplished, which will be, indeed, but the beginning of thorough, permanent, and profitable mining in the district.

Silver Bend.—We have received a letter from Belmont, dated March 1st, in which the writer says: Work is vigorously prosecuted by the different mining companies, and the mines are looking beautifully. Remarkably rich ore has been developed in the tunnel of the Combination company on the High Bridge, the result of which is universally encouraging. Several new discoveries are reported to have been made in the district, but the writer was unable to furnish any particulars. The snow prevents prospecting, but as soon as that disappears the hills of that section will swarm with eager prospecting parties.

Twin River.—The Murphy mine in Ophir cañon, Twin River district, says the *Reveille*, March 14th, is the basis of another important mining operation. The first southerly extension of the Murphy, which was located as the MacDonald, has been sold to parties in New York who have organized the MacDonald Silver Mining company, with a capital stock of $1,000,000, divided into 10,000 shares of $100 each. Mr. John H. Boalt, of the firm of Boalt & Stetefeldt, mining engineers and assayers of this city, is the general agent of the company, who will shortly arrive here on his way to the mine. The MacDonald was located by George H. Willard, one of the locators of the original Murphy. The working of the Murphy by the Twin River company has reached the line of the MacDonald extension, at which point we are informed they procured their best ore. The boundary line of the claims is in the cañon, beyond which the vein has not been traced, over two hundred feet to the southward.

Mammoth.—The Mount Vernon company are taking out some uncommonly rich ore from one of their drifts, which, it is estimated, will work up to $200 per ton.....Ferguson & Co. are drifting to the southward in the American Flag, and are getting a better quality of ore than they found in the shaft. Major Gillett, of the Ural company, has sent to the Knickerbocker mill a lot of fine ore from the Gould & Curry, and another lot of good ore from the Uncle Sam has been sent to the same mill.....Work continues to be prosecuted on the Sacramento, in which the owners are finding a larger vein and better mineral as they proceed. The Albany series of veins opens well, and invite further exploration, with every prospect of success .....Believing that in "union there is strength," a number of our miners are engaged in an effort to organize a company to develop the mining property of the district. When a member is too poor or unable to develop his veins alone, it is proposed to join hands and purses and unite in developing them, and in this way determine the value of their claims.

Idaho.

We compile our summary of news this week from copies of the Silver City *Avalanche* of March 2d, 9th, and 16th: Developments on the Dashaway ledge are encouraging. Shaft is down seventy feet, and tunnel started South. Vein of good quartz is disclosed in the tunnel of over three feet in thickness. It assays richly. None has been milled.....Mr. Agnew is making some changes in the amalgamators of the Schoenbar mill. When the weather and roads get so that ore can be hauled, he will make a trial of Dashaway ore .....The reports from the Woodstock ledge are flattering. Work is continuing and the ore is showing richer.....The deed of transfer of one hundred and thirty-three and one-third feet of the Empire ledge is to be made to-day. Price per foot fifteen dollars. Last week a sale was made of the same amount in the same ledge. It is situated on War Eagle mountain to the east of the Poorman .....The Oro Fino and Morning Star Mining company expect to work its own mines the ensuing season, to commence April 1st..... A Blue gulch miner writes under date of Feb. 23d as follows: I have taken particular notice to the mining of this camp for the past season, and do not wonder at the small pay taken out when I look at the mines and see how they have been gouged over and expense heaped on top of expense to no purpose whatever. A large portion of these mines have passed into the hands of Chinamen and will be thoroughly mined this year—with better pay than last. The miners on Jacob's and Blue gulches are putting their claims in thorough condition for profitable mining. There will be five hydraulics started as soon as water comes. Jennings, Smith & Co. have the Bell claims in nice condition to take out thousands of dollars of the precious metal. Wm. Dening & Co., A. Myers & Co., and J. H. Cooley & Co. will all be ready to take out large sums of gold. The channel leaves the gulch at the lower end of Myers' claims, and has been traced over half a mile in the mountain. R. Davidson & Co. sunk two shafts on their claims to the depth of forty feet, and got the best prospects I have seen for a number of years. There is about twenty-five feet of good pay dirt in the shafts, with facilities for easy mining. With a small amount of expense, I believe these mines can be made to pay one thousand dollars per week to five men's labor. From the large number of quartz specimens found in these mines, there must be rich veins of quartz higher up in the mountain.

Flint District.—Correspondence March 12th states: Quite a number of tunnels were run during the winter. The Sherman discovery tunnel was commenced last fall, but owing to the hardness of the rock it is only about seventy-five feet into the mountain. The owners feel confident of striking the ledge in about forty feet, at a depth of ninety feet from the surface. Another tunnel is being run on the second extension north of the same ledge. They are in about ninety feet, but the work here naturally progresses slowly owing to the extreme hardness of the rock. Messrs. Scott & Carter have commenced a tunnel on the first south extension of the Sherman, and expect to strike the ledge in fifty feet. There is a tunnel being run on the Forrest discovery. They are in, as per information, one hundred feet; but never having been there, can give no description of the same. King, Boyer & Co. have commenced a tunnel on a newly discovered ledge, and expect soon to strike it. Messrs. Warnkee & Stewart commenced a tunnel on the first extension south of the Leviathan about a year ago, and struck it recently. The appearance of the ledge is all that could be desired, fully four feet between the walls, filled with solid and very rich quartz. This ledge always had a mythical existence, being supposed to be a slide from the Morning Star, but this is now solved and it is a solid reality.....The Black Brothers have been, for the last three weeks, engaged in grading a place to build their furnaces, but find it impossible to proceed, and would, but for the frost, soon be prepared to start the whistle. The machinery of Black Brothers' mill arrived here some time in September last. The mill is entirely completed and in running order, lacking only the completion of the roasting furnaces. The machinery of this mill is of the best and most improved pattern, and made at the Union Iron Works, San Francisco. They have five stamps, each weighing 550 pounds, but the capacity of the other machinery is calculated for ten stamps, and it is the intention of the owners to add five more during the coming summer. Attached to the works is one of Wheeler & Randall's improved Excelsior pans—one of the best in existence. These pans are said to be able to grind for five stamps; but Mr. Black informed me they have a similar one on the way, and the grinding will be well performed. The mill is situated on Flint creek, above the embryo town of Owyhee City, and very convenient to quartz. We do not expect to see this mill in full operation before the middle of May.....Correspondence March 5th states: Greenwell & Carter have a lot of amalgam—their first clean up—supposed to weigh 150 pounds. This was the proceeds of four tons and a half of superior Rising Star ore. The machinery of this mill is susceptible of great improvement being part and parcel of two old mills, working eight light stamps, four of them so light that they would suit the mortar of a druggist better than a quartz mill. But as this old machinery is only intended to be temporary, we will make no further comments. The building itself is a splendid, solid piece of workmanship, as is also everything connected with it, and I have no hesitancy in pronouncing it one of the best in the Territory. There are two roasting furnaces, each of them about sixteen feet square, but connected. They roast to a charm, although the chimney is not yet completed. The Superintendent, Col. Fogus, feels confident of saving ninety per cent. of the precious metals on the coast. The mill is and will be supplied from the Rising Star mine, situated about half a mile from the mill. They have about 250 tons of second-class ore on the dump (the best had been worked in Silver last fall), but it is the intention of the owners not to crush this for the present, and they have put a number of men at work a little south of the discovery, from which they are extracting some very valuable quartz. It has been the general belief that no gold existed in our ledges, but a visit to the Rising Star will soon convince the incredulous. We have seen rock taken out within the past few days literally covered with flakes of gold and native silver, whilst the rock itself is very rich in sulphurets, and I do not see any reason to contradict the assertion of reports that this rock will average two hundred dollars per ton, mill process—a beautiful prospect, considering that the ledge is from six to twelve feet wide.

War Eagle.—We made a visit on this mountain on Tuesday of this week. Found laborers in the Silver Cord, Woodstock, Hays & Ray and Vulcan works. Only a small force of men are at present engaged in the Silver Cord, and they are more employed in preparing to take out ore than in mining. A shaft is being sunk from the main tunnel near the south line of the claim, where it is expected to place hoisting works. At this point in the ledge it is very rich. How far this golden deposit extends down or lengthwise of the vein none can tell until labor discloses it to view. That which is in view is immensely rich, and a few wheelbarrow loads contain a poor man's fortune.....The Woodstock proprietors are at work on their ledge, and the developments are favorable. They have a shaft down forty feet and partially timbered in a neat and substantial manner. The improvement has been gradual from the surface downward. At one place a granite horse was encountered and continued down on the north side of the shaft to nearly the present depth, but has given out and a fine vein of quartz, rich in free gold and silver sulphurets, has taken its place. At this place there is a full foot of quartz on the east side of the vein, and at the south side of the shaft about two feet of quartz. The vein between the casings is larger and the indications favor the belief that the whole vein will be quartz at no great depth. The present shaft will be sunk twenty or thirty feet deeper as rapidly as it can be done with the means at hand. The owners hire no help and are not blessed with capital to open their mine, but are firm in their faith that they possess a true and rich vein, and none could give greater evidence of their belief. They have some tons of rich ore out, in which free gold is generally visible. It is their purpose to save none but that which will be sure to yield a profit by careful milling, and hope by the time hauling can be done to have their mine in a condition to yield a constant supply of ore for five or ten stamps. In an examination of a large tub-full, taken out while there, every piece of any size showed free gold and black sulphurets..... The Hays & Ray tunnel is being shoved into the mountain as rapidly as three shifts of men per day can do it, by the contractors, Messrs. Barnham & Jackson. They have driven it about fifty feet in a little over three weeks. Considerable blasting is required. Some good ore is being taken out,

as there has been throughout the tunnel from near its mouth. It does not bear an even width for any considerable distance, but out of the many seams and strata of quartz a better defined vein is forming. The vein matter is precisely of the same general character as in the deep shafts on the Poorman portion. The progress of the tunnel is favorable to the interests of the company.....The Vulcan ledge is a north extension of the Silver Cord—its dip, course and general features prove this beyond a doubt. Mr. Rinehart, one of the owners, is conducting work in a tunnel now sixty feet in the mountain. At about forty feet the ledge pinched out to a mere seam, but beyond that it has widened out again and is fully two feet of quartz free from granite and talc, with a general appearance of ore that will pay well for mining and milling.

Boise County.—A correspondent of the *World* writes from Pioneer City (Hog'em): Wells, Fargo & Co.'s Express shipped from this place, during the five months ending October 31st, 1866:

June	$47,373 20
July	28,008 19
August	49,918 85
September	16,762 87
October	19,922 26
Total	$149,986 37

Estimating this sum at one-fourth of the yield of this camp, the whole would amount to about $600,000; and adding one hundred men to the number of voters of last season would give us five hundred men; this sum, then, divided equally among them, would give to each about $1,200, or, in round numbers, $240 a month per man. Boise basin is not played out yet; though men will continue to "go further and fare worse."....A ditch is being brought in from Clear creek to work some new diggings on the hill east of Hog'em .... Snow is fourteen feet deep at Summit Flat, seven feet at Elkhorn and five here. There are eleven men at Elkhorn and four at Summit Flat..... The deep tunnel at Elkhorn is four hundred feet long and will soon be in to the ledge. This will test its permanency.....The Idaho *Times* of Feb. 22d has the following: Mr. I P. Lambing, Superintendent of the Rosenbaum-Gambrinus ledge, has lately made a visit to that and other ledges, and informs us that a shaft had been sunk to the depth of sixty feet below water level in the Juniata tunnel and found a well-defined ledge three and a half feet in width. He states that the work of extracting ore and opening the mine is progressing as fast as possible for the season of the year. He visited the Illinois and Landon ledges. Mr. Kelly, at the Illinois, has a fine ledge of four feet in width. The ore will average from $50 to $100 per ton. The Landon shaft is ninety-seven feet deep, where a good ledge is displayed two and a-half feet in width. The rock looks well and will yield more than formerly credited to the ore from this ledge.

North Idaho.—From the Lewiston *Journal* we take the following: Expressman Fairchild brought down some rock taken from the Nez Perce vein, at a newly discovered point—which Mr. Hurley assayed with the following results: gold, $1,268 15; silver, $93 to the ton. The lead at this new point of discovery is two and a half feet wide.. ... Parties have recently crossed the Snake and sunk shafts from twelve to sixteen feet in depth on the flat opposite this place, and about three-quarters of a mile from the river. They find gold in every strata, and in some the prospects were highly flattering—the gold being in grains and of good size. Most of that found is thin scale gold, resembling that upon the bars adjacent to the river.....A correspondent writing from Warren's diggings, Jan. 28th, says: We have a very mild winter thus far. Nearly all the miners are at work, either drifting, stripping, ditching, or sawing lumber, and getting everything ready for rolling out the gold dust early in the Spring. The boys and girls both, however, find time for pleasure. Balls, parties, big dinners and snow-shoe riding, are some of the amusements by which they cast dull care aside, and "go it while they are young." All are enjoying excellent health, and are looking forward with bright anticipations for the future.

Montana.

St. Louis, April 13th, 1867.

Editors Journal of Mining: Gentlemen—I have regularly read, and with great interest, your condensed news of mining operations in Montana. Among the reports published by you, frequent allusions have been made to the works of the St. Louis and Montana Mining Company, at Argenta. It will doubtless conduce to the interests of legitimate mining to accurately record from time to time the results attained by this company. The last reports from the superintendent of the company referred to, state that on smelting six tons of average ore, he obtained 5,600 pounds of metal, equal to 933⅓ pounds of metal to the ton. On cupelling 3,800 pounds of the metal he obtained 89 pounds of silver, Troy weight; and from another run of 2,971 pounds of metal he obtained 66 pounds of silver. These results are respectively equal to 46.85 pounds of silver per ton of metal, and 21.857 pounds of silver per ton of ore, and 44.44 pounds per ton of metal, and 20.57 pounds per ton of ore; or, to express the result in the coinage of the country, equal respectively to $350 and $329 per ton of ore. A telegram, just received, reports the last cupellation of 6,700 pounds of metal as yielding 103 pounds of silver, which is not so large by one-third as the other results above stated, but is still equal to about $480, in coin to the ton of metal. The ores worked by this company yield from 40 to 60 per cent. of metal, and not more than one-half of one per cent. is lost in the process of reduction. The St. Louis and Montana Mining Company employ the best practical and scientific talent which can be procured; hence their success. P. A. Ladue.

.....The Virginia City *Democrat*, March 14th, says: Postlethwaite's mill cleaned up on the 10th inst., from five and a half day's run, 345 ounces of retort; value, $6,208 in coin, $7,900 in greenbacks.....There is now on exhibition a large plate of pure silver, run from the furnace of A. M. Esler & Co., Argenta, M. T. It is a beautiful specimen, and is worth over $1,400 .....The *Post*, March 9, says: The St. Louis & Montana smelting works at Argenta have again commenced operations, they having laid idle for several weeks, owing to the illness of Prof. Steitz. That gentleman having had a secret method of cupelling the ore, and having succeeded in making very handsome yields from it, it was desired to await his recovery before starting up again, but his continued illness necessitated the procurance of another person to perform his duties, and Prof. Deidesheimer was placed in charge of the works last week. Last Tuesday he finished the first run and turned over to the proprietors a block of silver weighing ninety pounds, as the yield of less than 4,000 pounds of "rich lead," and the result of one and one half day's run. The silver extracted is 995 pure, and at the rate of $16 30 per lb., foots up $1,467. The ore was taken from the Legal Tender lode, and is a part of the contract of two hundred tons which the St. L. & M. Co. are to smelt for the A. M. Esler Co. of New York, who own one thousand feet on the ledge. This yield, made without any claim for a secret process, confirms the richness of the Legal Tender. There are on this lead three shafts sunk the respective depths of 162, 90 and 60 feet, and the average crevice is two and a half feet.....Prof. Doughty has handed us the following assay of argentiferous lead from the Paul Jones lode in the Boulder district. The ore was smelted by Gen. R. C. Ewing on a Scotch hearth, and the lead extracted assayed 148 ounces 5 pwts. of silver per ton—equal to $191 24.....At Sterling Prof. Ward has sixty men employed in developing leads. The Housel lead in Norwegian gulch, is said to be the richest lead yet discovered. It has a three foot crevice. Clark's mill will be in running order by April 1st. Cope is still at work on the Poney and Galena leads, and is also taking out rock from the Blue for the next run. Atkin's mill on Meadow creek is nearly completed..... From the *Post* March 2: Considerable work is being carried on in the gulches round about. In Last Chance and Grizzly, a good deal of drifting is being done, and some sluicing, and it begins to look quite lively. From Indian creek we learn that the ditches to the dry diggings are being rapidly pushed to completion. Some very good sales have been made there, a short time since; but, as a general thing, those owning ground do not evince a desire to sell. In the region of Prickly-Pear city times are also looking up; work is being done on the bars, and also on the various leads, with the usual attendant high hopes of a big thing.....Through the kindness of Professor Charles Rumley, practical mettallurgist and assayer, we are enabled to lay before the readers of the *Post* the following record of new leads and their assays, together with the assays of several old ones: J. Faults has discovered a silver lode, fourteen miles from Helena, on the Prickly-Pear, which has a crevice four feet in width, and averages, by assay, $147 per ton of ore. The Onondaga silver lode, located near Seven and Ten Mile creeks, in Edgerton county, has a shaft on the discovery claim fifteen feet deep, with a vein three feet in width, and assays, in silver, per ton of ore, $176. Six assays of copper ore from the headwaters of the Muscleshell yielded, respectively, 23, 79, 40, 18, 33, and 51 per cent. of copper, with traces of the precious metals. The Bowling lode, at Flint creek, Deer Lodge county, has a shaft thirty feet in depth, and averages, as near as can be ascertained, $300 in silver per ton of ore. Messrs. Brown and Bell, of Flint creek, are developing the "P. G." lode, and, at a depth of thirty feet, have a vein thirty inches in width, the ore of which averages $700 in silver per ton. One ton of copper ore from the "Original" lode, located at Silver Bow, Deer Lodge county, contains $303 in silver .....A company called the "Alder Gulch Prospecting Association" has been formed for the purpose of testing the idea of a second bed rock in Alder gulch. A shaft is being sunk immediately below Nevada. Three hundred miners in the gulch have subscribed from two to ten days work each, and business men in Virginia and Nevada have already subscribed over $300 cash, in aid of the enterprise.....The exodus for Salmon is still on the increase.....The Granite Gulch Mining company have been constructing and have now completed a drain ditch on their property, and have reached the bed-rock with fair results. The ground is twenty-six feet deep, from two to three feet of which is pay dirt. Dr. Musingbrod, a few days since, prospected the drift and reports that he panned out from two cents to $2 12 to the pan, of very bright, heavy gold. The gulch is nine miles in length, with an abundance of water, and the gravel is free from boulders, and washes nicely.....There was cleaned up from the two mills of Messrs. Turnley and Hendry, on last Saturday, the sum of $6,133 50 from a five day's run on Whitlatch Union ore. The total amount which has been taken out of this lead since the 1st of December last, up to the 23d of February, is the net sum of $73,133 50, being an average of $6,944 58 per week. The highest single clean-up was from Judge Turnley's "Little Giant" mill, $8,430 80. We are indebted to the kindness of Secretary Sanders for the above figures, and they conclusively show the richness and intrinsic worth of the mines.....The Atlantic city correspondent of the *Post* says: It is a settled fact, in the minds of all interested, that Lost Horse gulch is rich; all are eagerly at work and confident of success. The ground pays very regularly, which is an uncommon thing in diggings where coarse gold is found. So far as my humble judgment goes, I do not hesitate to pronounce it a good thing, and do not believe it inferior to any ground in the Territory. New diggings have been struck twelve miles below our city, and near where this gulch empties into the Prickly-Pear. It is known as "Eagle gulch." There has been a large stampede there already, and about all the desirable ground secured. It prospects from ten cents to one dollar per pan. There are other gulches in this vicinity, and also tributaries of this gulch, yet unprospected, and which are thought to be rich; but we are so busy, at present, that we cannot spend the necessary time for prospecting.....Mr. Holway informs the Helena *Herald*, March 7, that at Eagle gulch, which is about twenty-five miles from Helena, "that some twenty claims will be thoroughly prospected within the next fifteen days. The shaft on discovery claim is down to the bed-rock, and discloses *five feet of pay gravel* which yields $1 10 to the pan on the lower strata."....At Rocker gulch eight men took out last summer, on the sly, in just six weeks time, the handsome sum of $60,000..... Messrs. Heald & Foot still own the Gold Mountain Quartz lode, which the *Herald* thinks is one of the very richest lodes in the Territory. It has a vein of nine feet thickness of rich, paying ore, that is easily crushed, quite free from the obstinate metals, and showing free gold in abundance in almost any piece one picks up at the shaft.....There are negotiations on foot, and likely soon to be consummated, which will secure the early completion of the big ditch so as to make sure the supply of water in Dry gulch, as well as in lower Grizzly and Last Chance, by the time the mining season shall be fully opened.

Flint District.—This district, says the *Post*, is an extensive one, not as yet thoroughly prospected; but as soon as the snow disappears from the hillsides, sufficiently to enable the prospector to carry on his arduous labors, work in this line will be renewed with a three-fold vigor, and, certainly, the evident richness of those now discovered would amply justify the highest anticipations with respect to finding more of the same sort equally as rich. The following are the names of a few of the many leads, together with the width of their crevices: The Great Republic has a twelve foot crevice; Franklin, two; Conway, two; Plymouth, four; Silver Crown, two; Poor Man's Joy, four; Lily, one; Camden, three; Pride of Montana, eight; Lady of the Lake, two; St. Cloud, one foot crevice, and has a shaft sixteen feet in depth; the "P. G." lode has a crevice twenty inches wide, with one shaft on it sixteen feet deep, and they are sinking another which they expect will strike the lead at a depth of sixty feet. From this lode we have seen specimens of rock containing pure native silver, not scattered over in fine particles, but laid on thick, somewhat resembling an old-fashioned piece of bread and butter—more butter than bread. The crevices, as a general thing, are not very wide, averaging pretty much as those we have named; although there are some exceptions to this rule. One, the Comanche, has a crevice which varies from four to twenty-five feet in width, which can be traced for over a mile in length, and is also rich in silver. The following assays, from some of the above leads, recently made by Mr. Rumly, have been furnished us by that gentleman, and they tell the tale more fully and eloquently than our limited space will permit us to do: Great Republic, $365 75 per ton; Franklin, $150 89; Plymouth, $235 72; Silver Crown, $275 21; Poor Man's Joy, $339 39; Lily, $228 27; Camden, $65; "P. G.," $2,902 90; Bowling, $465 20. In addition to the rich silver-bearing ore, found in the district, they have also discovered several gold leads, about ten miles up the creek from where the silver belt is located. The Burning Moscow is the name of one of them, and it has a shaft on it twenty feet deep, with a well defined crevice twenty-five feet wide, and is reputed to be a rich gold-bearing lode.

California.

A Mr. Keyes, of San Francisco, concludes an interesting historical descriptive and statistical article on the mineral resources of California as follows: A State which numbers amongst her productions an an-

nual yield of $25,000,000, and upwards, in gold; nearly 50,000 flasks of quicksilver; between 80,000 and 90,000 tons of coal; 25,000 to 30,000 tons of copper ore; 600 tons of borax; 2,500 tons of sulphur, with capacity for great expansion—to say nothing of the production of asphaltum, petroleum, clays, &c.—needs no rhetoric to embellish the brilliant array of her mineral resources. They speak the irrefragable logic of facts, and bear living witnses not only to the wealth of her prolific bosom, but also to the energy and enterprise of her population. From 1848 to 1866, a period of only eighteen years, there has been a gratifying increase in the products of the stable industries. The year 1853 saw the greatest yield from the superficial placers, which are now, in the older counties, pretty thoroughly exhausted. Naturally, there is required a longer time to build up the machinery, sink the shafts, and prepare the quartz mines for a production comparable to that of the placers. But, once constructed and set to work with becoming energy, skill and prudence, a permanent annual yield of $25,000,000 from this source profits the State far more than the fitful yield of far greater sums from repositories which must inevitably very soon become dried up .....A very full and useful table is given of the quartz mills in this State, with the location name of mill, date of erection, number of stamps, cost of machinery at assessed valuation, and names of directors or owners. It appears from this that the number of quartz mills in operation in this State in April, 1857, was 138, with an aggregate of 1,521 stamps; the cost of erection of which was $1,763,000. The number in operation in November, 1858, was 279, with an average of 2,610 stamps; the cost of erection of which was $3,270,000. The number in operation January 1st, 1867, was 411, of which 207 are propelled by steam, 186 by water, and 18 by steam and water. The cost of machinery is estimated at $5,900,000. In addition to the stamps here enumerated, there are employed 419 arastras, of which 350 are connected with different quartz mills, and the remainder are employed in different sections of the quartz region. Included in this estimate are 35 cement mills, viz.: in El Dorado county, 6; in Nevada county, 20; and in Placer county, 9. The total number of stamps in the entire State is 4,997.

Lower California.

Correspondence bearing date Feb. 23d, of the San Francisco *Bulletin*, runs thus: The peculiar feature of this country is its rich mineral character; and I propose to write something of mines and mining as I have found them here, premising that nothing that I may write shall be personally vindictive or laudatory, but simply to state the truth as near as I can, and do justice to all parties. I am not nor ever have been the owner of any mining property in this country, nor am I interested in any of the mines. Many companies have located claims on real or imaginary ledges, and sent forth their stock, representing their capital as thousands of dollars, to gull the public, while some have gone to work legitimately to open and develop their mines in a proper manner. I suppose that you have hundreds of men in San Francisco who are owners of as many shares in some of the numerous companies that have been formed to mine on this peninsula, the aggregate of whose property, real and personal (*i. e.*, the whole company), would not suffice to open a mine and place it in such a position that it could give good and regular dividends. The fault is not so much in the mines as in the manner of working them. Illegitimate speculation has been the curse of mining on this whole coast. Some man has gone to San Francisco dressed in an old greasy buckskin suit of clothes, his hair and beard innocent of shears and razor for years, his pockets full of specimens, and at once a company has been formed, stock issued, imaginary assays made, flaming letters—purporting to come from the locality of the mines, but written in San Francisco—published, and suddenly the stock has ruled high on 'Change, when really there was little if any work done on the ledge to discover its true character and extent, if they ever had any ledge. The truth is that men have expected to realize sudden and vast fortunes, not dreaming that immense difficulties lay in their way. Other companies, having secured a mine, have spent thousands of dollars in building fine mills and erecting expensive reduction works, without testing the extent and character of these ledges, and while some have really good mines, yet, not having properly developed them, they cannot supply their mills with ore, while others have found no ore at all, or so little as to be of no value to them. Some have entrusted their property to men that knew nothing of practical mining or even its rudiments, and they have made as egregious blunders as one of whom I heard. He boasted loudly of his qualifications to superintend a mine, and was sure to make any company rich who entrusted their work to him. He obtained a situation as superintendent of a company who owned one of those rich ledges of which we have heard so much in Idaho, went to the locality, found the ledge on a side hill, sunk a perpendicular shaft on the ledge some eighty feet, when he was hindered by water from sinking farther. Not having the necessary appliances at hand to lift his water, he concluded to go below and tap the bottom of the shaft by a tunnel. This was comparatively an easy job, as, the hill being steep, he would be obliged to run his tunnel but a short distance. Accordingly he measured down the side of the hill eighty feet, started his tunnel, and run on till he fortunately struck the shaft. But what was his amazement to find that his tunnel was some twenty feet above the bottom of his shaft. This is but an illustration of hundreds of men who have had charge of valuable property, and though they may not have made mistakes exactly like the above, yet they have spent hundreds and thousands of dollars as foolishly, and have nothing to show for it but fool's monuments. Others have been actually dishonest, and, because they were thousands of miles away from their employers, have spent the money sent to them for the development of their mines in building fine houses, at the gaming table, or otherwise squandered it. In many instances companies have been greatly at fault, in not furnishing means adequate to the work necessary to be done, sharing a too common error, that after an outlay of a few thousand dollars they should begin to receive dividends. To illustrate: Take any one of the large number of silver ledges—and good ones, too—that are to be found on this peninsula. By the laws of Mexico a company or an individual is compelled (with certain specified exceptions,) to sink a shaft or incline near fifty feet on the ledge before he can obtain possession. At this depth they can generally ascertain whether they are on a regular vein, its character, and can judge something as to its size and richness. But in order to take out a sufficient quantity of ore to supply a mill of only ten stamps, or from 100 to 150 tons per month, they must sink lower and run galleries on either side so that they can stope, or soon their mill will stand idle. This alone—with all the facilities that can be obtained here for working cheaply—will cost at least $50,000; and many companies that I could name have spent from $80,000 to $150,000 in opening their mines, and cannot now take out twenty tons of "metal" per month, nor are their mines in a condition to yield a regular and sure supply for a mill if they had one. There are but two mills in the country that are prepared to work. One, the Pecbeco, is a small one of only four stamps and two furnaces for roasting ore. This mill has been running about two years, most of the time on purchased ores. It is located about a mile above San Antonio, on the banks of the San Antonio creek. It sends from $2,000 to $4,000 in bullion to San Francisco by each steamer, and its lessees deserve commendation for the perseverance that they have manifested in overcoming the numerous difficulties with which they have had to contend. The other is that of the Triunfo Silver Mining and Commercial company, located at Triunfo, a small town about five miles west of San Antonio. The company have just completed their new mill and started to crushing on the 28th of January. It has run now nearly three weeks, and I am told that they have crushed and roasted about one hundred tons per week, but as their barrels were not fully completed they have amalgamated but a small portion of what was crushed. Their ore has averaged about $70 per ton, which, I take it, is a pretty good thing for the company; and as they have upwards 1,200 of tons of ore on hand, and a supply virtually without limit in sight in the mines, they will doubtless be sending up some bullion to show you San Franciscans that Nevada is not the only silver producing district of this coast. .....There are some other hindrances to the prosperity of this country, such as the export tax on bullion, which I hear is four per cent. It is all very well to levy a heavy tax on the other side, where the Government has provided mints for the coinage of silver: but here there is no mint, and the tax is a heavy burden to be borne by those who are striving to develop and build up the country. Again, the duties are exceedingly onerous on many articles that the miners are compelled to import, as also there are great inconsistencies in their tariff, some articles are admitted free that are produced in the country, while many that are not and cannot be raised here are taxed heavily.

New Hampshire.

The quartz mine of the Hartford Mining company at Lyman, N. H., is yielding an average of over $100 worth of gold per ton. A lump of gold worth $180 has recently been taken out. The company have got out fifteen hundred tons of quartz, and are now erecting a quartz mill, with the necessary machinery .....The mining excitement at Lisbon, Lyman, Rumley, and other towns in New Hampshire, is increasing. Rich discoveries are reported, and companies are forming to work the mines, which are believed to abound with gold, silver, and lead.

West Virginia.

The Elizabeth (West Virginia) *Gazette* announces that E. S. Lockhart, Esq., of Wirt county, discovered on his farm specimens of silver ore, taken from a strata of peculiar stone.

Central America.

El Horvenir, published at Rivas, Nicaragua, gives this description of the Jabella mine, purchased last year for the Central American Association. It is situated in the Chontales district of Nicaragua. "The lode is of steady, uniform richness, and will hold out at least half a century, even if it has to feed all the machinery that can be worked with the available water-power. It runs from east to west, is generally from eight to ten feet, but in some parts as many as twenty feet wide, and it contains gold and sulphurets of silver. From the general samples taken and washed, the average produce of gold is above one ounce to the ton, but never less; and in some places, as, for instance, in the bottom level, forty ounces to the ton. The greatest depth attained in the present workings is fifty yards, and at that depth the lode is decidedly richer than it is towards the surface of the mine."

COPPER.

Michigan.

The Keweenaw *Times*, March 30, gives a summary of mining news from which we condense the following: At the Calumet it is expected that the stamp mill will be in operation the first of May, if not before. It is being pushed ahead with all possible dispatch. .....At the Amygdaloid winzes have just been started north and south of Haddock shaft to the sixty fathom level. The vein in the drift north of the shaft is looking quite promising. A little stoping is being done in the back of the thirty fathom level in a fair stamp lode. Since Mr. Wood has assumed control of the mine, he has added 25 men to the mining force. The stamps have not been put in operation, although they were heated up, and preparations were being made to work them. We are advised that probably they will not be started before the first of June, and then the entire mill will be operated instead of one-half .....At the Delaware stopes have been started in the back of the thirty fathom level north of No. 2 shaft, which are looking well—showing some heavy copper. The grandest show, however, is in the forty fathom level, north of the shaft. It is hard to tell what this mass will make, as it extends up in the back of the level and down in the sole. Some have estimated that the amount of copper exposed is twenty tons. Another mass is exposed just north of the one spoken of on this level. The mill will not be put in operation for several weeks .....At the Bay State but little stoping, comparatively, has been done during the past winter—barely enough to keep up the show of stoping, attention being directed to sinking shafts, winzes, and driving drifts, all of which are doing well. In and around Crocker shaft, which is now down to the fifty fathom level; the show for heavy copper is good in more than the ordinary sense of that word. This shaft is being sunk on the vein which has averaged 2½ feet in width all the way down, with a yield of copper. This lift of the shaft is 72 feet, and, judging from the appearance of the lode in the shaft at both ends, the back of the level must be of more than ordinary productiveness. For about half the distance sunk on this lift the inclination of the vein was more than ordinarily sharp, but it then assumed almost a perpendicular, and continues thus to the bottom. About half way down the shaft a fair-sized mass was taken out. As soon as practicable drifts will be started north and south on the fifty fathom level, and the ground opened, so that it may be made at once available. From Crocker shaft, on the forty fathom level, to the boundary line north, it is 43 feet, while from the shaft on the fifth level it is 106 feet—an unusual extension of the line for a single lift, and is certainly encouraging, inasmuch as the lode showing in the north end of the shaft is so promising. Should the vein north from the shaft yield, as it is reasonable to expect it will, it must add very materially to the value of the mine, in the estimation of mining men. Just south of this shaft, in the back of the 40 fathom level, they have started a stope which is up in the back 12 or 15 feet, and is moderately productive in the lighter grades of mineral. In the south end of the stope a single horn of copper is protruding, but the vein looks better than it does north. South still further, or at a distance of say sixty feet from the shaft the vein splices off to the east of the supposed regular course. At the point of the split a small mass of copper was found, which induced the management to open on it, hoping to develop something of greater value in the feeder, as the main vein appeared to have been impoverished. The stope of which we have just spoken as being started in the back of this level, was temporarily abandoned and the stopers set to work on the feeder. Following it up, it appeared to be making stronger, and at a distance of about thirty feet from the cut-off they run on to a nest of masses, the heaviest of which will probably weigh three tons; that is the heaviest that has been taken out up to this time, while the indications are that it will yield more of the same grade of mineral, the rock being literally tied together with copper. Several smaller masses have also been taken out. At the point where these masses were found is a congealed belt of copper bearing amygdaloidal—a new feature of the mine. These belts have never carried mineral before, although frequently met with. It is a question in the mind of the mine management whether what we have called a splice be really a splice of, or the main vein; certain it is that lining the lode through from Tyler shaft it is directly on the course of the main vein; and if it be designated as such, what is to be done with the lode in the shaft, as the course of this splice would carry it considerably to the east of the shaft, unless we concede that it has taken a double tack, or have been

brown back again to the west, which is not at all probable? It matters, but little, perhaps, whether it be the main lode or a splice, so long as it continues to make as heavily in copper as it now does. The drift on the forty fathom level has just been holed to Tyler shaft. From the splice south to the shaft the vein is well filled with stamp mineral, and makes more strongly, however, as they open south. Tyler shaft is also being sunk to the fifty fathom level, and is down probably 15 feet under the sole of the forty. The vein in this shaft is a large and rich stamp vein, being fully four feet in width in the south end, and probably six or eight inches narrower north. As soon as this shaft is down to the 50, drifting will be commenced north and south. Along the back of the 30 fathom level there is good stoping ground standing, but little is being done in it. The 20 drift is being driven south of Tyler shaft in a fair-looking stamp vein. The end of the drift showed a belt of amygdaloid, sprinkled with copper. North a short distance they have begun to strip down the lode preparatory to the commencement of stoping in the back. The Bay State mine, taken as a whole, looks well; and should the ground be opened—of which there is a greater amount than we have ever seen before in the mine—yield as well as we have reason to believe it will, the record of the mine the coming season will be brighter than for several years past. The agent, in his report to the company, sets down the stamps—Wise's invention—as "defective in principle," and therefore expensive to run, the consumption of fuel being enormous for the amount of work actually performed by them. The water for stamping and washing purposes is raised about eight feet, and it is thought that it requires about one-third of the power of the stamp engine to pump this water. To lessen this tax upon the engine, and reduce the expense, a dam is being built across the stream 1500 feet above the mill, from which water will be conveyed to the stamps by launders. For pumping water the Phœnix company have paid the Bay State $100 per month for eight months in the year, and for the other four, $200, or $1,600 per year.

.....At the Phœnix the engine put in place at the old No. 7 shaft last fall, now that the engine house has been destroyed, is being removed to, and will be used at the old No. 8 shaft, the point of the present workings on the old property. At the Phœnix Bay State workings a winze which they have been sinking from the 40 fathom level, holed the Bay State 40, eight feet north of the Crocker shaft, and has passed, it is estimated, 20 feet at least through ground belonging to the Bay State mine. The Bay State 40 fathom level is about 25 feet lower than the Phœnix 40. Such is one of the many difficulties under which this mine labors.

.....At the Eagle River the drift on the 10 fathom level is in from the shaft 450 feet, and passing the entire distance through a good stamp mineral vein, averaging 20 inches in width. This drift they are still driving. The drift has been extended 150 feet south of the shaft, the ground south being about the same in character that it is north. This gives them now a length of 600 feet on this level of fair stoping ground. Probably a little stoping will be done here ere long, for the purpose of testing more thoroughly the ground, as it is believed, from the character of the vein, that it will make heavy copper; 215 feet north of the shaft a winze is being sunk to the 20 fathom level, and is now down 60 feet. The vein carried in this winze is similar in character to the vein in the drift, viz., a good stamp mineral vein. The drift on the 20 fathom level is now in from the shaft about 175 feet, leaving about 40 feet farther to drive before connection is made with the winze being sunk from the 10. The ground in this drift is more settled, and the vein consequently makes larger and stronger than in the 10. The lode will average two feet in width, and is well charged with stamps stuff; it shows also some barrel work. Just behind the drift a mass of copper which will weigh at least a ton, probably more, is exposed, with chunks of copper near at hand. This remarkably fine show of mineral in the 20 drift, taken with the regularity and uniformity of distribution of the mineral through the lode for the whole distance driven, will doubtless tend to a more vigorous working of the mine. As soon, perhaps, as the drift is connected with the winze, they will stope out the back somewhat, in order to satisfy themselves of its real value. The hoisting is still done with a whim, but it is the intention to use the St. Clair engine. The pully stands are already up between the shaft and engine house, and it will be therefore but a trifling job, comparatively, to complete the connection. It is the design to stamp the Eagle River rock at the old water stamps of the St. Clair, the latter mine having provided herself with better and larger facilities for treating rock, though using still the same motive power.....The shaft at the St. Clair mine is down to the third level. This shaft has been sunk most of the way on the vein, but it was found that as they sunk it the lode assumed a perpendicular, and in order to continue the shaft on the same inclination to the third level that it was above, they left the lode to the west. The vein in the shaft, so far as they sunk on it, was small, and carried only stamp mineral. The drift is not in far enough yet to strike the vein; they are driving it still. The 20 fathom level drift is 450 feet north of the shaft, passing through good ground; some of the way drifted the vein has carried heavy copper; 215 feet north of the shaft, a winze—known as No. 1 winze—connects this level 20, with the ten. This winze passed through a good stamp vein. North 215 feet, or thereabouts, farther another winze—known as No. 2 winze—has been sunk also from the 10 to the 20 fathom level. This winze passed through the southern portion of the rich chute of copper-bearing ground from which the principal part of their mineral was derived last season, and indicates quite clearly that an extension of the drift a few feet farther northward will intersect it. In the winze several small masses were found, while horns and sheets of copper are seen protruding. This chute of ground in the winze appeared to be making stronger and heavier than it did in the drift and back of the 10, and it is expected when it is reached in the 20 drift it will make masses. Should it be as productive as it was in the 10, of which there is little or no doubt, it will be most valuable. South of the end of the drift a crossing displaced and threw the vein to the west something like fifteen degrees, and consequently disturbed and impoverished the lode. The drift was extended on the regular course of the vein a number of feet beyond this crossing, under the expectation that it would fall back again on the regular course; but in this they were disappointed, and a cross-cut was driven to the intersection of the lode. A drift is being driven through this block of ground to strike the main drift north, the management deeming it better than to remove all the rock between the crossing and the cross-cut, as well as to straighten up and make more regular the drift. Between these two winzes of which we have spoken, they are now engaged in stoping out the back. The vein in this stope is largely charged with stamps mineral and barrel work. Directly under these stopes, in the drift, some very respectable masses were taken out last fall. The vein looks, for quite a distance—indeed up to the crossing spoken of—very congenial, though not large. The vein will average, probably, from the shaft up to the crossing, two feet in width, and will pay for stoping the entire distance. The 10 fathom level drift is in from the shaft full 600 feet, and is therefore nearly through to the slide, and indeed the drift is now in the belt of rock underlying it. Ten feet south of the end of the drift a branch similar to the one of which we have spoken of on the 40 fathom level at the Bay State, put off from the main vein, but which, like the Bay State feeder, carried barrel work, sheet and small mass copper. The vein proper is full of brick copper, and is of usual width. The most singular, and yet satisfactory, feature of this portion of the mine workings is, that the rock lying between the feeder and vein is literally full of stamp mineral. Break it where you will, you are sure to find a prevalence of fine copper in the rock. This belt of rock underlying the slide is soft and rotten, and therefore easily worked, but has pretty generally where cut at other points, carried no mineral; but in this case we find it quite productive, and seemingly increasing in richness as the slide is approached. It cannot be more than 50 feet farther to the slide. Preparations are now being made to resume stoping in the back of this level, the stull timbers for which are being put in. At one or two points south of the end of the drift the ground is pretty nearly spent, particularly in the immediate vicinity of the winze connecting the level with the deep adit, and near the point of commencement of the chute of rich ground of which we have spoken. There is still standing, however, a number of fathoms of good stoping ground in this level. We find at present no heavy copper showing anywhere along the back or sides, but the vein is strong and compact, and well charged with stamps mineral. In the sole and back of the deep adit, they are also stoping, with good results. The vein looks well in both sole and back, and yields more or less barrel work, but nothing heavier. They are running but four head of stamps, not having either water or rock enough to keep the other four going. The stoping done during the winter has been nothing comparatively, and hence the supply of rock is limited; but now that they have made a commencement of stoping again, and increased somewhat the mining force, the full capacity of the mill can be met. Heretofore the copper has been dressed and washed wholly by hand, but now it will be done with an old-fashioned Cornish jigging machine, two of which have been put in the mill. Water stamps and old country jiggers may be laughed at by some, but certainly the past year's operations of the stamp mill have been most successful; and we presume the addition of the jiggers will not be less satisfactory and economical than hand-dressing the mineral. We do not find as much heavy copper showing in the mine as usual, but a good exhibit of stamps mineral, and much more ground opened for stoping than they had last season. We have no doubt, however, but that she will return for the coming season as fair a monthly product as last. The necessity is being more fully felt now than ever before for a new shaft south to enable them to open the south ground, with which nothing is being done, owing to imperfect ventilation. The run of ground at present is short, and for permanent and continued working openings should be made south as well as north.....At the Madison mine the show for heavy copper in the sole of the 20 fathom level has never been better than now. Out of this underhand stope, as it may very properly be called, they have just taken several masses, one of which will probably weigh three tons, and two others 700 or 800 pounds each, with quite a good deal of barrel work. At the point where the heaviest mass was found, it looks good for another mass; at all events there will be a rich yield of barrel work. The vein is strong, healthy, and in addition to its yield of the heavier forms of mineral, is rich in stamp stuff. Put four miners are now employed.....At the Eagle Harbor Copper company the No. 2 ash bed at the Agency Place workings has been struck, and is pretty well filled with stamps stuff, and shot copper. It looks well, indeed, and would doubtless pay to open on and work more extensively than it is being at present. The belt of trappean rock lying between No. 1 and 2 ashbeds is something like 30 feet in thickness, while at other points worked north of the Greenstone, it has been found not to exceed 12 feet. It is improbable that at the point where they have intersected the lower bed in the shaft it makes a pocket or enlarges, as we find fissure veins doing. At the Essex, nothing is being done, save drifting south from No. 2 shaft, on the second level, for the purpose of connecting with No. 1. This lift of the shaft is 85 feet, and at times, as we have said previously, the vein has shown well; but by far the best show is in the bottom of the shaft. The drift is not in sufficiently yet to allow of the formation of an opinion in respect to the value of the lode.....We learn from a gentleman just from Ontonagon, that the shaft at the None Such is down 55 feet and the vein still improving. Reliable mining men who have lately visited the location estimate that the entire amount of rock removed from the shaft will average from five to eight per cent. of mineral. The present works at the mine consist of a single log shanty, barely capable of accommodating four men, which is the force employed. The point of operations is about four miles from the lake shore, and two miles from the Union mine, on the Porpucine range of bluffs, and eighteen miles south of the village of Ontonagon on the bank of a stream which will afford abundant water facilities for washing and dressing the rock at all seasons of the year. The trend of the lode we are told further, is to the south, and for this reason some mining men entertain a shrewd suspicion—the result, evidently, of previously educated prejudices—that it will soon exhaust itself. We have long since settled in our minds the fact that it is folly to decry the value of any mining tract, simply because the vein or lode trends east or west, north or south, or that it is in the conglomerate, or sandstone, or north of the range, as we are constantly developing rich mineral deposits in lodes having bearings contrary to hitherto established theories, as well as belts of rock in which we have been taught to believe it was impossible for copper to exist at all, to say nothing about the immensity of its existence in these poor belts. From the present indications, this is certainly the most valuable discovery that has been made for years in the Ontonagon district.

IRON.

Pennsylvania.

The Pottsville *Standard*, April 13th, says: The amount of black-band iron ore shipped over the Mill Creek Railroad, for the week ending April 6th, 1867, was 110 17 tons; previous, 2,671 tons; total, 2,781 17 tons. This ore was all from the McGinnes shaft, at Mill creek, where mining is successfully continued.

.....Messrs. Daniel and James McGinnes, who have been for some time past engaged in sinking a shaft on the outcrop of a vein of black-band, on the eastern end of the Mammoth Vein Coal company's tract, have struck the black ore at a distance of about 115 feet from the surface. The ore is hard and heavy, and ready for the furnace. It is on the same axis as the McGinnes vein, and is apparently the same vein. It is about 34 inches in thickness.....The Mammoth Vein Coal company have opened a vein of black-band on the west side of Mill creek, on the north dip, near the McGinnes shaft, but in a different basin. The black ore has been struck about 10 feet from the surface. It is about 30 inches thick. We learn that what is supposed to be the McGinnes vein of black-band has been opened on Lick Run, near Middleport. It lies between the Orchard and Primrose veins of coal, above the water level. It is nine inches thick at the outcrop, but has widened to 3 feet, and is still widening as it goes deeper. This vein is 7 miles east of the McGinnes shaft, in the same basin.....The outcrop of a vein of iron ore, supposed to be the McGinnes vein, has been found on the lands of the Phœnix Park Coal company, about 1½ miles west of Minersville.....The Hazleton *Sentinel* says: Last week, as Mr. Christopher Kern, with a gang of workmen, was engaged quarrying stone for the new machine shop, at Weatherly, now in course of construction by the L. V. R. R. Co., they discovered a vein of iron ore measuring nine feet in thickness, about half a mile from Weatherly, in Broad Mountain. It has been examined by a gentleman familiar with such ores, who considers it rich in metal. It is now undergoing the test of analysis. This ore was discovered on lands belonging to Edward Young, and to the estate of Amasa Dodson.

COAL.

Ohio.

On the morning of the 3d instant, at seven o'clock, a terrible explosion occurred at the coal pit of the Rush Run Coal and Iron Company, at Rush Run, on the Cleveland and Pittsburgh Railroad, eleven miles below Steubenville, Ohio. The Steubenville *Herald* says the curbing sixty feet from the mouth of the pit was out of order. Thomas Payne, Luke Harris and Thomas Paton descended with tools to repair the curbing, and in five minutes after they had announced their safe landing on the platform, a most terrible explosion occurred, blowing the beams of curbing, stones and dirt out of the pit with such force as to lift the roof off the building. Paton was blown out of the pit against the roof, and fell with a mass of timber directly across the bunton over the mouth of the pit, entirely dead, and very much burned and disfigured. Several of the workmen, standing near the pit, were slightly injured and stunned by the falling timbers. The smoke and gas for a time made it impossible to approach the pit. A stream of water, however, was quickly turned in, which purified the air in an hour sufficient to allow workmen to descend. On examination, it was found the platform and curbing had wrecked the shaft so as to prevent a passage to the bottom, some two hundred feet below the platform, where the other men had fallen. Up to noon on Wednesday, the bodies of Payne and Harris had not been recovered. It is supposed the explosion was the result of carelessness on the part of the workmen in removing a part of or making vent in the platform, through which the gas became ignited by the lamps.

Pennsylvania.

The Pottsville *Standard*, April 6th, says: The amount of black-band iron ore shipped over the Mill Creek Railroad, for the week ending March 30th, 1867, was 154 18 tons; previous, 2,516 02 tons; total, 2,671 tons.....The search for black-band is still prosecuted, but there will probably be little accomplished in the way of the development of the various ores discovered until a general revival of business takes place. The black-band ore continues in demand, and many parties intend to shaft for it as soon as spring is fairly opened. But for the great expense of erecting proper furnaces, the present spring would probably witness the commencement of extensive iron manufactures in this region.

Brazil.

From the London *Mining Journal*, March 16th, we take the following relative to coal in Brazil: The enormous facilities possessed by Brazil for the opening out of a large trade in coal has been several times alluded to, and, considering the fact that no less an authority than Prof. Agassiz pronounces the coal to unquestionably belong to the carboniferous period, it is remarkable that so little has hitherto been done to turn the discoveries made to commercial advantage. Specimens of coal from the mines on the River Jaguarao, discovered by Mr. Nathaniel Plant, have recently been forwarded to this country by the consul at Rio de Janeiro, and are now deposited in the Museum of Practical Geology, in Jermyn street. They are accompanied by an elaborate report by the discoverer, in which it is stated that a principal feature of this coal field, as far as it has been examined, consists in the great depth of some of the coal beds, and the facilities which it presents in a long escarpment for getting the coal by open quarrying; it would require neither deep shafts nor drawing engines, nor scarcely one-tenth of the expensive plant required to work the coal from most other fields. The outcrop presents no less than 65 feet of bituminous coal, exposed along the margin of a river valley, and all the implements required to get the coal will be the miner's pick and blasting powder. The coal would fall almost unaided into the wagons below. The sedimentary rocks forming the coal have a uniform inclination towards the southwest, dipping at an angle of from 10 degrees to 150 degrees, and apparently rest upon the mica-chist and sienitic rocks which surround the River Jaguarao and its confluents. The subjoined table shows the order of superposition: 1. Sandstone, from 0 to 200 feet thick. Resembles the gres bizarre of Europe. 2. Coal shale, 9 feet thick. Argillaceous, and totally unfit for fuel. 3. Sandy shale, 5 feet thick. Contains ironstone nodules. May be turned to profitable account in working coal beds. 4. Coal, 3 feet thick. Useful for smelting purposes. 5. White schist. Containing innumerable impressions of fossil plants (perhaps aquatic.) 6. Coal. Of good bituminous quality. 7. Blue clay, ½ foot thick. A mere parting between No. 6 and No. 8, from 1 to 6 inches thick. 8. Coal, 17 feet thick. Highly bituminous; successfully used as steam fuel on the Lagos dos Patos. 9. Blue clay. Similar to No. 7, but contains vestiges of fossil plants. 10. Coal, 25 feet thick. Apparently the lowest bed; superior to No. 8; it has proved itself a valuable steam coal. 11. Ironstone shale. Contains fossil plants, as in the coal deposits of Australia and the United States. Below this there is a sandstone similar to No. 1, and the next rock in succession is a very pure limestone, the thickness and extent of which has not been ascertained; in all probability it lies on a mica-schist, which, together with sienite, forms the hills surrounding the coal basin of the valley of the River Jaguarao. The No. 4 coal is of a semi-bituminous character, and, although it leaves a high percentage of ash after combustion, it is thought that it may be found useful for smelting the various ores to be found in the interstratifying rocks of the coal beds. The No. 8 coal has been used with success as fuel by the steamers navigating the Lagos dos Patos, and, although it left a greater percentage of ash than coal, it must be considered that the samples were taken from near the surface. The No. 10 coal has been used as a fuel in a variety of ways with marked success. The coke from this coal is of a better quality than that derived from the Cardiff coal. It is estimated that when the Candiota mines are opened, the Brazilians can be supplied with coal at one-half the price now paid for imported coal.

Patent Claims.

Interesting to Miners, Millmen, Metallurgists, Oil-Men and Others.

63,637.—ROLLING MILL.—William W. Howell, assignor to himself and M. Marshall, Philadelphia, Pa.:

I claim the combination of the recessed roller, B, roller, A, shield, E, and springs, a, the whole being arranged and operating as described.

63,675.—QUARTZ MILL.—Thomas Varney, San Francisco, Cal.:

I claim the combination of the slots in the smooth grinding surfaces filled with wood with the peculiar form of the revolving grinder, m, and stationary grinder, p, when constructed and operating substantially as described and for the purpose as set forth.

63,681.—ROCK DRILL.—T. R. White, assignor to himself and W. G. Bedford, Philadelphia, Pa., antedated March 29, 1867:

I claim, 1st. The combination of a drill-stock and detachable cutters, D, E., when the latter are constructed and adapted to each other and for attachment to a stock, substantially as and for the purpose specified.

2d. The detachable block, C, in combination with the drill-stock and with the detachable cutters, D. E, their rods, c, and nuts, d, or their equivalents, the whole being constructed and arranged substantially as and for the purpose set forth.

3d. A rock-drill having three radial and three curved cutting edges, arranged in respect to each other as shown and described.

63,713.—QUARTZ MILL.—James B. Fields, assignor to himself and Peter Fields, Jersey City, N. J.:

I claim, 1st. The hollow rotating cylinder, B, in combination with the crusher, G, the latter being placed within the former and having their crushing or pulverizing surfaces, e, g, moving with different speeds by the means substantially as and for the purpose set forth.

2d. The shields, E, attached to the inner surfaces of the sides, at a, a*, of cylinder, B, in combination with the openings, d, in the sides of the cylinder, B, covered with screens, and the crusher, G, all arranged to operate in the manner as and for the purpose specified.

63,749.—DEODORIZING PETROLEUM.—Thos. Restieaux, Boston, Mass.:

I claim the application of quicksilver to petroleum and any of the products of petroleum, as herein described, using for that purpose the aforesaid solution, or any other substantially the same and which will produce the intended effect.

RE-ISSUES.

2,549.—REVERBERATORY AND OTHER METTALLURGIC FURNACES.—John R. Grout, Detroit Mich. Patented July 24, 1866:

I claim, 1st, In a reverberatory or other furnace for treating metals, having a bridge-wall or its equivalent and a combustion or melting chamber, the atmospheric passage-way, a, a', a'', through the bridge-wall so constructed that a thin and broad current or currents of atmospheric air, heated in passing through the wall, shall be discharged at or near the top of the bridge-wall and in rear of the same diagonally across the course of the currents of the gaseous products of combustion on entering the combustion or melting chamber after passing from the fire-room.

2d. In such a furnace, the atmospheric passage-way, b, b', b'', through the arch over the fire-room and bridge-wall, so constructed that a broad and thin current or currents of atmospheric air, heated in passing through the wall, shall be discharged at a line over, or nearly over the rear side of the bridge-wall downwardly and diagonally across the course of the current of the gaseous products of combustion on entering the combustion or melting chamber after passing from the fire-room.

3d. In such a furnace, the combination of an atmospheric air passage way constructed through the bridge-wall with a similar passage-way through the arch over the same, said passage-ways being respectively constructed substantially as described.

4th. The passage-ways, a, a', a'', or b, b', b'', when constructed respectively in the bridge-wall and arch and subdivided in such manner as to discharge the hot air, as set forth, through two or more orifices with narrow openings, the series extending across or nearly across the entire width of the passage over the bridge-wall.

5th. The atmospheric passage ways, a, a', a'', and b, b', b'', constructed so that the air will be heated in passing through the furnace walls, when so arranged with valves or other throttles that the flow of air through them may be regulated at discretion, substantially as set forth.

6th. The bridge, C, across the bridge-wall above the valve for the protection of the same, substantially as described.

7th. So constructing such a furnace that the heat absorbed by the furnace walls may be taken up by currents of air passing through passage-ways constructed in the furnace walls, which on flowing through them is afterwards discharged into and mingled with the gaseous products of the combustion after the same have risen from the fuel upon the grates and passed out of the fire-room, substantially as described.

Special Scientific Brevities.

☞ Dr. List, a German, has lately made a series of analyses respecting the reaction of the silicium in pig-iron during puddling and other refining processes. These analyses, like most of the other similar ones made during the last few years, prove that under normal conditions, silicium is one of the most easily removable constituents of pig-iron. That this removal of the silicium is effected by oxidation is shown by the fact that several varieties of pig-iron were found by List not to have lost any silicium when melted down in a cupola furnace. Calvert and Johnson found that pig-iron containing 2.72 per cent. silicium, contained only 0.197 per cent. when melted down, after an hour in a puddling furnace. Similarly, List found that the 1.92 per cent. of silicium, contained in a gray Nassau pig-iron, had diminished to 0.29 by the time the latter had begun to melt. In two other cases, where the process lasted a little longer, the silicium had diminished 88.83 and 96.6 per cent. Altogether it appears that pig-iron may contain up to three per cent. silicium without disturbing the puddling process. From pig-iron containing more than three per cent. it would be difficult, if not impossible to obtain good puddled iron. Dr. List states, in conclusion, that it is impossible to prove analytically the assertion of M. Lohage, that pig-iron for puddling must contain at least nine per cent. of silicium.

☞ Dr. L. Elsner has heated a great variety of minerals and other rock constituents in a porcelain furnace to an estimated temperature of 2,500 to 3,000 deg., and finds in general that silicates containing the alkaline metals, or iron, are much more fusible than those which contain much alumina, or no iron; with the exception of obsidian, all the rocks experimented upon, even those of volcanic origin, presented, after heating, totally different characteristics from those which accompany them in nature; the crystalline varieties became compact and semi-fused; therefore they must have been produced in nature under different conditions from those of his experiments. The conversion of pumice into an obsidian-like body is especially interesting. After heating, the rocks experimented on showed lower specific gravities.—*Journ. prakt. Chem.*, xcix. 262.)

☞ Granulated Gun Cotton is offered for military purposes, by a process which consists in reducing the gun cotton to a paper pulp, solidifying it by pressure, cutting it up, and finally varnishing the grains with collodion. Or, the pulp is mixed with a small proportion of gum or collodion and agitated in a vessel until granulation results.

☞ A new alloy has been introduced in Paris, under the name *Euro-argent*, or tri-silver. It is composed of 33 per cent. silver, 25 to 30 per cent. of nickel, and 37 to 52 of copper. The compound is not homogeneous, but is rendered malleable by a secret process. In color it is similar to platinum, takes a high polish, is extremely hard, and is not affected by exposure to the atmosphere.

☞ Alloys of Steel with Platinum are said to be very perfect in every proportion that has been tried. The best proportion for edge instruments is about one-fifth per cent. of the latter metal. Equal parts by weight form a beautiful alloy which takes a fine polish and does not tarnish: the color is the finest imaginable for a mirror.

☞ An inquiry, instituted by the British Association, has determined the ratio of strength in hot-blast iron as 1,024.8, and of power to sustain impact as 1,226.3, to 1,000 in cold-blast iron.

☞ M. Dupre, of Rennes, Ile-et-Vilaine, has recently adapted, with success, the mechanical theory of heat to the transmission of sound.

☞ High-pressure steam has been used in the distillation of mercury.

Mineral and other On-dits.

☞ An interesting discussion is at present going on in the West, as to which was the highest mountain in the United States, California or Oregon, Mount Whitney, in California, being said to be 15,000 feet high, and Mount Hood being 12,000, or, according to Prof. Wood, 17,600.

☞ It is said that at Lodi, Fountain county, Ind., there is a well discharging from two hundred thousand to two hundred and fifty thousand gallons per day, thus more than doubling the discharge of the Grenelle well, in the Hotel des Invalides in Paris.

☞ Utah is very rich in minerals, and from them her people expect valuable returns. The Salt Lake *Vedette*, speaking of its immense lead mines, recommends the establishment of manufactories for sheet lead, lead pipe, shot, etc. The lead discovered is rich in silver.

☞ The Monticello diamond, said to be worth two hundred and fifty thousand dollars, is described as nothing more than iron pyrites with angular projections, which cut glass and are impervious to the action of acids.

☞ The gold coin of this country consists of ninety parts of gold, two and a half of silver, and seven and a half of copper. The silver coin consists of ninety parts of silver and ten of copper.

☞ The territory of Wyoming promises to contribute her share to the mineral treasures of this country. In it there are immense deposits of gold, silver, copper, lead and coal.

☞ Coating wooden buildings with a mixture of paint and petroleum, preserves them against the action of wind and weather.

All Sorts.

☞ A British Columbia exchange says: A Chinaman, cast away on an island near Nanaimo, was rescued the other day by Indians, after having subsisted for twenty-three days on snow. When found he was quite fat and hearty, when his low diet is considered.

☞ The New Orleans *Picayune* mentions that an ice manufacturing company, operating at Shreveport with two machines, declared at the end of last season a dividend of 18 per cent. in spite of the inexperience of the men engaged in the business.

☞ Mr. Hurlbut, mining engineer at Houghton, Michigan, is reputed to have become the wealthiest man on Lake Superior, or in any way connected with the copper mines. He was the discoverer of the famous Calumet mine.

☞ A Missouri blacksmith has prepared a horse-shoe for the Paris Exposition, made of raw ore from the Iron Mountain. Half the shoe is finished, and the other half shows the ore as it is dug from the mine.

☞ An exchange tells of an editor who went soldiering, and was chosen Captain. One day, on parade, instead of giving the orders, "Front face, three paces forward, he exclaimed: "Cash, two dollars and a half in advance."

☞ A modest young lady, who was a passenger on board a packet ship, it is said, sprung out of her berth and jumped overboard on hearing the captain, during a storm, order the mate to haul down the sheets.

☞ The Virginia City (Nevada) *Trespass* has seen a piece of petrified bacon "with the genuine hair of the genuine hog."

☞ Write down the advice of him who loves you, though like it not at present.

☞ Much tongue and much judgment seldom go together.

☞ The noblest remedy for injuries is oblivion.

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ILLUSTRATED MACHINERY.—Stevenson's Improved Turbine Water Wheel.
ORIGINAL PAPERS.—A New Chemical Nomenclature, by Prof. S. D. Tillman—Noble Metals, by Prof. Englehardt.
CORRESPONDENCE.—Guido Kustel on the Loss of Gold and Silver in course of Reduction—Blunt Suggestion for the Benefit of the Slate Trade.
MINING SUMMARY.—GOLD AND SILVER: Nevada, California, Idaho, Montana, West Virginia, New Hampshire, Central America. COPPER: Michigan. IRON: Ohio, Pennsylvania. COAL: Brazil, Pennsylvania.
MISCELLANEOUS.—The Tin Trade in England—Extraction of Silver from Copper Ores—A New Explosive Compound—Manufacture of Iron—Irruptions of Fire-Damp in Coal Mines—Roasting Furnace — Washing Coal, Ores, &c.
MINING COMPANY MEETINGS—Dividends, Meetings, Assessments, Statements.
SCIENTIFIC MEETINGS.
MARKET REVIEW.—Mining and Petroleum Stocks, Finances, Stocks, Metals, etc.
THE COAL TRADE.—Quotations, Shipments, Freights, Cargo Rates, Weekly Coal Trade Circular.
SLATE TRADE REPORTS.
SPECIAL SCIENTIFIC BREVITIES.
ALL SORTS.
PATENT CLAIMS.
MINERAL AND OTHER ON DITS.

THE CHINESE DIFFICULTY IN CALIFORNIA—ARE THE COOLIES A USELESS BURTHEN?

Seventeen years ago the Chinese Emperor Toua Kouang sought, by an ineffectual decree, to prevent his "children of the Central Kingdom" emigrating to California—then rising into importance and wealth. Numbers of his subjects, nevertheless, annually flocked to the Golden State, and some time ago a treaty to protect their interests was concluded between this country and China. The result has been that many hard-working, industrious men have done much to promote the interests of California, by giving assistance in building her railroads, opening her quarries, erecting mills and machine shops, and even in founding towns which will hereafter, in the course of progress, acquire wealth and prosperity. Demagogues, unwilling to admit the benefits accruing from the labor of those men, or anxious to acquire what appears to us an unenviable notoriety, have excited amongst the working classes in the west a movement against Chinese labor. The reasons offered to justify their action in this are wholly untenable. We are told that those immigrants, willing to work at moderate rates, deprive white laborers of all work on advantageous terms. Arguing *a priori*, we certainly would think that this is a fallacy, and the facts fully bear us out—the cheapness of Chinese labor enabling manufacturers to employ a number of white men who would otherwise, at present rates, be unemployed. We find that in many such cases, while seventy per cent. of the laborers are Asiatic, seventy per cent. of the wages goes to the white man. Surely this is not depriving him of work or fair remuneration. We are again told that the Chinese send all their earnings to their own country for such articles as they require. It is said that this deprives this country of money which should be expended in it. There is no obligation on any one to spend his earnings in any particular place, and this money sent to China—miserable as the sum must be—is not without its advantages to us, in promoting in some degree commerce between the two countries, and in inducing immigration. We are told, too, that the Chinese are thieves, and of bad character. Californian exchanges are of opinion that the men who make this charge ought not to throw stones in glass houses. At all events, it is certain that the Chinese are amenable to law as well as others, and that we know is sufficiently strong to vindicate itself against all evil-doers. As to the likelihood of the Mongols outnumbering the Caucasians, or introducing Mandarins and Confucius into the West, that is so unlikely that we wonder at intelligent men entertaining the idea for a single instant. We are, in fine, informed that the Coolie system is another slave trade under a disguised form. If this be so—which is denied—every means ought to be taken to promote voluntary immigration, in preference to that which is compulsory. A country which has spent its resources and its blood in the cause of sacred liberty will surely permit no repetition of former outrages. Although some of the journals of the Pacific coast are opposed to what they term the "degrading doctrine of the equality of races," we are glad to find the fallacies of the demagogues have been properly exposed. Every man able and willing to work who comes into a country adds to its wealth; Mr. Chase calculates the average yearly value of an immigrant to be $1,000. He helps to develop industries; he creates a market for labor; he contributes to the revenue by paying taxes. This country, powerful beyond dispute, has been made what it is by the development of her resources, accomplished by the immigrants who annually seek a home amongst us. We constantly receive accounts of what labor is doing in the West, and surely there, men ought to be capable of reasoning from what they see. The more laborers there are in an undeveloped country like California the greater will be the field for toil. Instead of trying to banish immigrants, whether Mongols or Caucasians, every effort ought to be made to attract thither men who can work, and who can thereby remove the greatest necessity and difficulty of the Pacific States.

IMMIGRATION AND EMIGRATION.

We have one important want. We feel with most other new countries a scarcity of men. Our mines are scarcely worked, our rich fields are untilled, for want of laborers. From California, notwithstanding the numbers who have, during nearly twenty years, crowded to her mines, there are complaints that the country is too sparsely populated. With how much greater reason may Arizona, Nevada, Colorado, Montana, and the other territories, anxiously look forward to an increase in their inhabitants. What we require in this country, especially in the West, is men. They are "what constitute a State." To supply this want we ought to make some exertion. The Chamber of Commerce at San Francisco, with a right appreciation of its duties, has appointed resident correspondents in England and Germany, whose duty it will be to disseminate information relative to the resources of California. This manifests a laudable desire to advance the material interests of the country; but we hope that action will be taken to *assist* immigration to the West. Large numbers have been attracted to Australia—in many respects inferior to this country as a home for emigrants—by the system of assisted emigration. In Brisbane and New Zealand, besides grants of land given to those who pay their own passage, large sums are annually subscribed or voted to pay a portion of the expenses of persons belonging to the working classes, who are willing to migrate to those flourishing colonies. It has been found that the money thus expended has been well spent. In Ireland there are thousands of athletic, vigorous men, well suited for the hard work of the West, who, if they had the means, would willingly leave a country in which their sole constitutional privilege appears to be liberty to starve. They would follow their race in the course of the declining sun. In Germany, France and England there are also numbers who would as willingly exchange their unfranchised serfdom for the equality of this country. A great deal, too, might be done by enabling our own citizens in the thickly-populated eastern cities to go westward; they will be more at home there than in Brazil, to which hundreds are emigrating, to return in disappointment. We wish that the exertions of our friends in the Western States will prove successful, and so far as we can we will aid the good work.

NECESSITY OF A CHANGE IN THE MINT LAWS—EVILS OF THE EXISTING CODE.

In a letter of Mr. Garnett, of San Francisco, communicated to the Senate by the Secretary of the Treasury, and which we give at length in another column, some of the more glaring evils of the taxation on mining and refining are pointed out and valuable suggestions for their removal are offered, While not adopting without qualification this gentleman's opinion "that mining has proved here, as all the world over, a fascinating illusion," we believe that much injury has been done to our mining by an ill-advised taxation. It was shown, some time ago, in the JOURNAL OF MINING, how impolitic and how useless it is to tax the men who develop the mineral resources of this country, and we believe it is equally as foolish to impose mint and revenue charges as high as 1½ per cent. on gold, and 2½ per cent. on silver, a tax which reduces the minting or net coining value per ounce of our bullion considerably below its commercial value. It is a matter of vital importance that as much bullion as possible should be kept here. Every effort should be made to induce its importation, and to prevent its exportation. If a high tax is imposed on the coinage of foreign bullion, and if exorbitant revenue and refining charges are deducted from the returns made to the owner of the metal sent to our mint, two disastrous effects will be produced—bullion will be exported to foreign markets, where smaller charges make its commercial value greater than its minting value at home, and a disinclination to send it to this country will arise.

FAILURE OF THE RUSSO-AMERICAN TELEGRAPH PROJECT.

In a formal communication to the Secretary of State, the Western Union Telegraph Company announce that they have abandoned the Russ-American telegraph project. It is stated that upwards of three millions of dollars have been expended in the purchase of materials, and in extending their lines 850 miles north of the capital of British Columbia. After spending such an amount of money as this, one would naturally expect substantial reasons for abandoning the project. The chief of these is said to be the success of the Atlantic Telegraph. How long that will continue a success is doubtful. We believe, moreover, that it is impolitic to trust to a line which is wholly in the hands of the British. Our merchants rightly object to the excessive rates charged by those who at present monopolize the line. Means of telegraphic communication which

would be the work of American capitalists and manufacturers, as well as the design of American talent, should exist.

Scientific Meetings.

AMERICAN INSTITUTE—POLYTECHNIC BRANCH.

IMPROVED HYGROMETER—AUTOMATIC WATER METER—DEFENCE OF AMERICAN INGENUITY—ANALYSIS OF SUBSTANCES AKIN TO PETROLEUM.

At the meeting of the Institute on Thursday evening, Prof. Tilman in the chair, Mr. Lowe exhibited an hygrometer, by means of which the relative humidity of the atmosphere is graphically indicated, thus avoiding the necessity of calculation. This hydrometer (moisture measurer) or hygrodeik (moisture indicator) consists of the ordinary wet and dry bulb thermometers, and a carefully calculated table, on which an index is moved by the hand. This index is connected with two indicators, which are adjusted to the thermometers at the degree to which the mercury is raised by the heat. By moving the index on the line of the table opposite the indicators, the amount of moisture is at once ascertained. This delicate instrument was much admired by those present.

Mr. Robjohn submitted a model of an improved automatic meter, intended to measure liquid or gaseous substances. The internal mechanism is very ingenious and complete, and the inventor maintains that the use of this meter will prevent all fraud. Besides attaining great accuracy in measurement, it completely preveuts leakage and many other defects to which ordinary meters are subject.

Dr. Van der Weyde wished to make a few remarks in defence of American inventive ingenuity. Some years ago, a physician in Europe, wrote to him, asking him was he aware of the use of anæsthetics, and telling him how invaluable they were in assuaging pain. He wrote back that they were of American invention and that he was well acquainted with them. A few weeks since, he read in the *Cosmos* a short account of the proceedings of the French Academy of Science, in which members spoke of the recent introduction of nitrous oxide for anæsthetic purposes, and made objections to its use as being too dangerous. Here it has been proved not to be so, as about fifty thousand teeth have been pulled from persons under its influence, with but one or two accidents. Dr. Vander Weyde then strongly denounced the unfairness of Europeans in not acknowledging the origin and merits of our inventions.

Mr. Page exhibited some specimens of petroleum, bitumen, &c., from different parts of the world, some of these were very interesting and valuable. He also gave some new views as to the origin of coal and petroleum. He believed that fluid substances, such as oil, &c., preceded those which are solid. He also objected to the theory that coal is formed from vegetable substances. Dr. Van der Weyde then gave the result of his analysis of petroleum and kindred substances, marsh gas C_2H_6, gas collected from the top of petroleum barrels C_4H_6, chimogene C_6H_8, gasoline C_8H_{70}, benzine $C_{10}H_{12}$, light kerosene $C_{12}H_{14}$, heavy kerosene $C_{14}H_{16}$, solid parafin $C_{40}H_{42}$.

Correspondence.

[To insure insertion of Correspondence in our columns the full name and address of the writer must be given.]

Guido Kustel on the Loss of Gold and Silver in Course of Reduction—The "Coming Man" is Cheap Labor, Educatien in Mining and Metallurgy, and Solid Mining Companies.

San Francisco, Cal., March 15, 1867.

Editors Journal of Mining:

Gentlemen—Some time ago, in one of your valuable papers, the loss of gold and silver in the United States in course of reduction was stated to be fully fifty per cent. This high percentage seems to be exaggerated; it might, however, refer to some rare local occurrence. Especially in regard to gold the most simple apparatus, like long-toms or cradles, can not lose fifty per cent., even with the best will to do so, if worked or operated on such material as that for which they are intended. In quartz the gold appears mostly in a finely-distributed condition, and for this reason the rock must be reduced to a fine powder. Whether this reduction is performed dry or wet, some loss must be suffered; but dust-chambers or sufficient tanks will reduce the loss to a minimum, especially if the gangue consists of quartz. A black scum of auriferous sulphurets and free gold, containing $1,200 per ton, as has been stated, can be produced, if rich, finely-pulverized, dry sulphurets are mixed with water and stirred; but there is no scum apparent if sufficient water is used in crushing, and the tanks so arranged that the communication between two of them is below the surface of the water, the speed of which is so slow in the tanks that it could be considered nearly as standing water.

The collection of the crushed stuff in tanks is performed principally for the purpose of amalgamating it in pans, in which the free gold can be extracted within fifteen per cent. loss, more or less, according to the nature of the ore and way of treatment. The poorer the ore is, the higher the percentage loss. But even concentrated sulphurets, if carefully treated, giving ample time for grinding and amalgamating, have been worked in pans up to seventy-three per cent. of the gold contained, according to fire assays (in Grass Valley). The sulphurets have been charged raw; the roasted gave less favorable results. The reason that this operation did not continue is because the Grass Valley people are not satisfied with a return of seventy-three per cent. from their concentrated sulphurets, which assay over $400 per ton.

Many mills in California do not use pans directly, or not at all, and consequently no tanks. If, in this case, rich sulphurets occur in the ore, besides free gold, the loss is certainly heavy, on account of the loss of sulphurets, and depends on the concentration. In some mills the free gold is collected partly in the battery and partly on the platform outside, on amalgamated copper plates, quicksilver being used in the battery. From the platform the stuff is conveyed into sluices over blankets, which are washed every ten minutes, or every hour, as the case may require. The blanket stuff is generally subjected to amalgamation in pans, or in some other stirring apparatus, which latter is preferable if, after the extraction of free gold, the sulphurets should be concentrated. Other mills do not use quicksilver, but save the gold on blankets. This method, not using quicksilver in the battery and no copperplates, is undoubtedly more perfect. The specific gravity of gold, by being amalgamated, is diminished, and the gain in absolute weight of the finer particles is entirely lost by formation of spongy small amalgam particles, which are kept floating at the slightest motion of the water. A very small percentage of such amalgam can be saved on blankets, while almost all fine gold would deposit if no amalgam were formed, besides the exposure of gold amalgam on the plates and the cleaning of the battery losing, at the same time, more gold, are no recommendations.

Examining the concentrated sulphurets after the amalgamation has been performed (in Grass Valley), hardly a particle of free gold can be detected by the best extracting apparatus—assaying, nevertheless, about $400 per ton. These sulphurets are subjected to "Plattner's" chloration process, for which there are five establishments in Grass Valley at present. By this process ninety per cent of the gold is saved from iron, or arsenical pyrites. The chloration works do not belong to the mills, and their returns are controlled by fire assays.

It can easily be conjectured that if properly concentrated, the loss of gold, even from rock with auriferous pyrites, will be a great deal less than fifty per cent., and that to extract it within fifteen or twenty per cent. loss is not at all out of the reach of our mode of saving gold in its present condition. All that is needed is a proper concentration—not only for sulphurets, but also for silver ores. Our concentration—that is, in California and Nevada—is a very limited one. Nutshell concentrators, requiring no care whatever on the part of the millman, are most in favor, but concentrators of this description are always defective. There are many men here thoroughly acquainted with the arrangement of the best European concentration works, as well as with the most economical treatment of all kinds of ore, and there is not the question "Where is the coming man, who shall show us how to save all our gold and silver?" but how are our circumstances and conditions to be changed in order to enable qualified persons to extract advantageously the greatest possible percentage of gold and silver? For instance, a superintendent would adopt a mode of working, saving thereby ten per cent. more than his predecessor, with the same expense, but crushing, say 190 tons per week, in place of 240. In spite of his ten per cent. saving, he could not come up to the same amount of dollars as the other, by pushing through more ore. The saving man would be discharged, although the owner of the ore and the country become richer by the closer work, but the momentary interest is omnipotent.

The ore from the Comstock lode (N.) is worked in pans, without roasting, with the exception of the very rich part. The loss of silver, amounting to from 30 to 40 per cent. is well known to the most of the millmen, while the barrel and pan amalgamation, by way of roasting, allows the extraction within from 15 to 20 per cent. loss, and if the extraction is not performed closer than 85 per cent., it is not for want of knowing how to bring it up to 90 or 92 per cent., but for the experience that the gain of five or seven per cent. more is too expensive. Notwithstanding the favorable result of 85 per cent., which is obtained by careful roasting, the mass of the Comstock ore is preferred to be treated by a mode causing 40 per cent. loss in silver. This is no fancy choice, but is the necessary result of circumstances; it pays dividends.

Apparently there is a way which might prove more economical than the present system of working poor ore in pans, without roasting, and that is by way of concentration before amalgamation; but there are three main objections to its introduction. A very important one is the considerable quantity of water required for a proper concentration. Another is the large capital necessary to build a regular concentrator, capable of working twenty or forty tons per day, not speaking of those mills which are able to push through from eighty to one hundred tons per day at the present mode of working. The third objection will be found in the superintendents and mill-owners themselves. It is known that men who were busy all their lifetime as storekeepers, lawyers, carpenters or engineers, are appointed to the duties of superintendents of mines and mills. They know, or learn while managing, how to fill a pan, to throw in quicksilver, blue vitriol and salt; how to discharge the pan, and how to retort the amalgam, but have neither judgment nor experience beyond that. If, under such conditions, an approved concentrating apparatus were introduced, requiring some little care, it would invariably be put aside. What could be expected, then, from such management in a mill with concentration in it as the main operation; where not the quantity is king, but where quality of the operation decides upon the result? Towers can not be built without foundation. Considering the vast theoretical and practical knowledge required for the management of mines and mills, thousands of superintendents would shrink into superficial stamp-feeders or rock-breakers. The "coming man" is cheap labor, education in mining and metallurgy, and solid mining companies.

Guido Kustel, M. E.

Blunt Suggestions for the Benefit of the Slate Trade—Beware of Big Profits and Swindling Companies—A Sly Poke at Somebody.

New York, April 11th, 1867.

Editors Journal of Mining:

Gentlemen—Being a regular reader of your instructive sheet, from its first number, I beg to tender my regards to the Journal, and trust it may continue to expand and flourish until it reaches the counting-house and studio of every business man in the country—and more particularly to those who are engaged or have their capital invested in the resources of mining. I am much pleased to see such a large portion of your journal devoted to an interest which has hitherto been neglected by capitalists, or even that consideration given it that is commensurate with its present and future greatness, and which is certainly destined to become one of the leading resources of our great country. I allude to the production of slate. Not being a scientific adept myself, and having read with much interest the able scientific articles which appeared in the columns of its first numbers, I humbly entreat the scientific author to continue his very interesting essays. With your permission, and invoking the indulgence of the reader, I wish to offer some plain and blunt suggestions, which I trust, may be of some future benefit to the trade, and, more particularly, to those who are, or may be, interested in its production,

First, great care and caution is requisite in the selection of a location or quarry for the development of slate, and, secondly, experience and skill is necessary in making the same.

It is far from being certain that every little vein of slate which makes its appearance upon the surface or underneath, will turn out a merchantable article, or make a profitable quarry. In the selection, due and proper regard should be observed in the angle of the vein, its depth and elongation under the surface, its facilities for working, its adaptation for the introduction of machinery, its freedom from drainage, its distance of transportation, and the character and quality of its metal. With these things carefully observed and considered, success will be attained in the business. Let not the capitalist be induced to make his selection or investment by reason of the large and unprecedented profits arising from such quarry or quarries as were mentioned in a former article in your journal, referring, I believe, to the "Chapman quarries," for such profits cannot be derived from any legitimate business. Nothing but a "United States," or "Grant" flowing well, or a government shoddy contract, could realize such results. Thousands of dollars have been spent in the uncovering and working of quarries, where a disregard has been shown to some of the above requirements; and the natural and inevitable results are dissatisfaction and discouragement on behalf of the operator. Then commences a system of *gerrymandering* as is only known among manipulators, by the organization of incorporated companies, with large capital, promise of big dividends, enchanting prospectus, and only selling a few shares for a *working* capital, whereby the uninitiated and innocent are taken in and *fleeced;* and finally, which is the most detrimental, the business is injured, and the standing and character of the operator who manages his business with care and caution becomes impaired in the community. Again we repeat and admonish all to beware of such tricks and sophistries.

These crude views are given with a view to caution, and by one who has watched with no little concern the present and future prospects of the slate trade, and not advanced with a design to injure any company or property, neither with a design or desire to give prominence to any locality, property, or company. OBSERVER.

STATEMENTS.

CLARK & UPSON MINING COMPANY, MONTANA.

The property of this company is situated in the Hot Spring the Willow Creek, the Norwegian, the Wisconsin, the Rams-horn and the Bineus Gulch Districts of Madison county, and in the Roseveit District of Edgerton county, Montana; comprising altogether 26,375 feet. The company is now nearly two years in existence.

MORRIS CANAL AND BANKING COMPANY.

During the past year the canal was opened for business on two hundred and twenty-two working days. The tonnage carried over it amounted to 889,220 tons, which was equivalent to 59,736 tons carried one mile. The shipments of coal to Port Delaware increased from 74,502 tons in 1865 to 112,790 tons last year. The shipments at Port Washington increased from 124,204 tons to 141,034. The amount received at Port Delaware by canal diminished from 217,933 to 205,351 tons. The ore trade has increased from 174,838 tons to 230,165 tons in 1866. The earnings of the company have been $616,350 36, the expenses $340,380 19, leaving as net earnings $275,970 17. Dividends of 10 per cent. on preferred stock, and of 8 per cent. on consolidated stock, have been declared. Boat Loan bonds have been bought up and cancelled.

THE MOUNTAIN KING SILVER MINING CO., OF ECHO DISTRICT, HUMBOLDT CO., NEVADA.

We have received the prospectus of this new company, organized under the laws of the State of New York. Its property consists of 7,200 feet in three ledges, the Havana, Carson, and Nevada. The first of these is said to be fourteen feet wide, the Carson ledge is said to be forty feet, and the Nevada five feet wide. According to assays—details of which will be found in the report—ore from the Havana ledge yields $1,640 62 per ton. The Carson yields $1,042 16 per ton, and the Nevada gives $1,460 per ton. Should all the mineral produce as much, it will be valuable.

MEETINGS.

Bunker Hill Silver Mining Co., at 141 Broadway, May 6; Holman Gold Mining Co. of Colorado, 25 Nassau street, April 22; Arcadian Copper Co., at 48 Pine street, May 2; Gold Rock Mining Co., at 93 Wall street, May 7; Longmoor Oil Co., at 16 Broad st., April 23; Enniskillen Petroleum and Refining Co., at 48 Broad st., April 22; Franklin Silver Mining Co., at 327 Walnut street, Philadelphia, April 27; Border Oil Co., at 524 Walnut street, Philadelphia, room 18, May 2; Penn. Cannel Coal and RR. Co., at 42 Court street, Boston, April 27, 11 A. M.

ASSESSMENTS

Belcher S. M Co. of Nevada, $12 (gold) per share; Adams M. Co. of L. S., at Boston, $2 per share.

DIVIDENDS.

Ophir Mining Co., of Nova Scotia, at 13 Doane street, Boston, 25 per cent. on demand; Crown Point Silver Mining Co. of Nevada, $80 (gold) per foot; Imperial Silver Mining Co., $15 (gold) per share.

MARKET REVIEW.

FRIDAY EVENING.

Gold and Silver Stocks—To-day being Good Friday, no business was done at the various Stock Boards. At the Second Board yesterday, Alameda sold at $8.85, and b.10, $8.95; Columbian G. & S., $3.55; Consolidated Gregory, b.3 and b.10, $8.95; Corydon, $5 95@6.00, an advance of 80c; Keystone Silver, 1c; Quartz Hill, $2.05@2.20; Sensenderfer, b.30, $10.40; Nye Gold, 3c. The market has been active during the week, many stocks ruling at higher rates. Quartz Hill created some stir, and at closing yesterday showed a decline of 20c.

	April 12.		April 18.	
	Offered.	Asked.	Offered.	Asked.
Alameda	8 70	8 70	....	8 85
American Flag	81	95	90	1 00
Atlantic and Pacific	1 00	2 00	....	2 25
Bates & Baxter Gold	1 25	2 00	1 50	2 25
Benton Gold	1 00	1 10	1 00	1 25
Bobtail Gold	1 00	3 00	....	3 50
Boscobel Silver	....	....	....	5 00
Bullion Consolidated	....	1 50	....	1 30
Burroughs Gold	....	....	....	25
Central Gold	....	....	....	20
Crozier Gold	....	....	2	10
Columbian G. & S	3 40	3 50	3 55	3 60
Consolidated Colorado	....	10	....	10
Consolidated Gregory	9 00	9 15	8 90	8 95
Corydon	5 15	5 20	6 05	6 10
Des Moines Gold	....	....	....	75
Downieville Gold	....	8	....	20
Gilpin Gold	....	....	....	3 00
Gold Hill	....	4 00	3 00	4 00
Gunnell Gold	4 25	4 70	4 70	4 95
Gunnell Union	....	50	....	45
Grass Valley	2 50	2 60	....	1 75
Holman	....	20	10	20
Hope Gold	....	75	....	....
Keystone Silver	1	2	....	1
Kipp & Buell Gold	55	70	40	....
La Crosse Gold	40	50	40	50
Liebig	....	5	30	....
Liberty Gold	....	....	3	5
Montana Gold	40	55	70	....
New York	60	90	60	1 60
Nye Gold	3	6	3	....
Ohio & Colorado G. & S	....	65	75	....
People's G. & S. of Cal	....	60	75	....
Quartz Hill	2 35	2 40	2 05	2 20
Reynolds Gold	....	4	3	8
Rocky Mountain Gold	95	1 10	1 00	1 10
Smith & Parmelee Gold	5 00	5 10	5 70	5 95
Sensenderferfer	10 00	13 00	....	10 40
Symonds Fork	....	1 40	1 50	....
Texas Gold	....	20	16	18

Copper Stocks.—Charter Oak has advanced 10 cents, selling at $1 95:

	April 12.		April 18.	
	OFFERED.	ASKED.	OFFERED.	ASKED.
Caledonia	....	15 00	....	....
Charter Oak Copper	1 83	1 85	1 95	....
Davidson Copper	1 30	1 50	1 35	1 40
Hilton Copper	....	....	....	....
Isle Royal Copper	....	8 00	....	8 00
Oguna Copper	....	6 00	....	6 00

Petroleum Stocks.—Bennehoff Run sold at 3 60 yesterday—an advance of 85 cents.

	April 12.		April 18.	
	Offered.	Asked.	Offered.	Asked.
Bennehoff Run	2 30	2 75	....	3 60
Buchanan Farm	....	19	....	....
Central	70	1 00	....	....
Clinton Oil	....	1 30	....	....
Cherry Run Special	....	7	....	....
Excelsior	....	20	....	....
Manhattan	....	15	....	.
N. Y. and Alleghany	....	4 50	....	....
Pit Hole Creek	....	75	....	....
Rynd Farm	6	20	....	....
United Pet. Farms	5	....	....	....
United States	3 50	4 00	....	....

Miscellaneous Stocks—Pacific Mail SS. Co., 126@126½; Wells, Fargo & Co., Ex. 66@66¼; Cumberland Coal, 29; Mariposa pref., 7; Del., Lac. & W. RR., 1 12.

Government Stocks.—Having been active at the counter of the large dealers, the price of Five-twenties being unaffected by the European despatches. The following has been the range of prices during the morning:

U. S. 6s, coupons, 1881	109½@109¾
U. S. 5-20s, 1862, coupon	109¾@110
U. S. 5-20s, 1864, coupon	108⅛@108⅜
U. S. 5-20s, 1865, coupon	108⅛@108⅜
U. S. 5-20s, 1865, coupon, new	107⅛@107¼
U. S. 10-40 coupon	98⅛@ 98¼
U. S. 7-30, 1st	106 @106⅛
" 2nd	105⅜@105½
" 3rd	105⅜@105½

Foreign Exchange is moderately active, and decidedly firm. The following are the current rates: London, prime bankers', 60 days, 109½; do, prime bankers', sight, 110; Paris, bankers', long, 5.15@5.13¾; do., bankers', short, 5.12½@5.11¼; Antwerp, 5.20@5.17½; Swiss, 5.20@5.17½; Hamburg, 36¼; Amsterdam, 41⅞@41⅜; Frankfort, 41⅜@41¼; Bremen, 72⅞@72½; Berlin, 79.

Gold—138@138¾.

Copper—The market has been active—sales amounting to close on 2,000,000 lbs. Baltimore, 24½c.; Lake, 24½c.; Detroit, 24½c.

Iron very dull. American Pig, No. 1, $38@40; No. 2, 35@37. In the retail trade, Wm. Osthout reports a dullness, prices ranging as follows: Swedish Iron, $155@165; common, $95@100; refined, $105@110; band, $137½; rods, 3-16 to ⅜, $110@170; scroll, ⅝ to ⅞, $187½@137½; horseshoe, $132½@137½; hoop, ⅝ to 2, $142½@200; ovals and half ovals, ½ to 1½, $132½@142½, nail-rods, $9@10¼.

Tin—Banca, 25c., gold; Straits, 22c., gold; English, 21½c., gold. Market dull.

Spelter more active. Silesian, 6½ to 6¾c., gold; American, 10c., currency.

Lead—The market is dull. We quote prices at 6½c., gold.

Petroleum is quiet at 16c. for Crude, and 27c. for Refined, in bond.

THE SLATE TRADE.

Dullness still reigns in the market. Prices may be quoted nominally as follows:

Roofing Slate.

Vermont purple, 1st quality, per square	$11 00@12 00
" " 2d " "	10 00@11 00
" green, 1st " "	11 50@12 50
" " 2d " "	10 50@11 50
" red, 1st " "	12 50@13 50
" " 2d " "	11 50@12 50
Pa. bl'k & d'k blue, 1st " "	10 50@11 50
" " 2d " "	9 50@10 50

PRICES DELIVERED PER SQUARE.

CHICAGO.—Vermont purple and green, 1st qual	$14 00@15 00
" " " " 2d "	13 00@14 00
" " red 1st "	15 00@16 00
" " " " 2d "	14 00@15 00
Penn. black " " 1st "	15 50@16 50
" " " " 2d "	14 50@15 50

BUFFALO.—$2 or $3 lower than Chicago.
CLEVELAND.—$1 higher than Buffalo.
CINCINNATI.—50 cents higher than Cleveland.
NEW ORLEANS.—$19@20 per square.
CHARLESTON, S. C.—$15@16 per square.

THE COAL TRADE.

There is very little inquiry and trade remains very quiet. There are a few dealers in from the East, but they are waiting the result of the Scranton sale, which is to take place on Wednesday next, April 24th. It is not our belief that coal will sell any lower at this sale, but the fact of the company offering eighty thousand tons in the present weak state of the market may have a tendency in that direction

We learn that nearly all the collieries in the Lehigh region have resumed operations, the men going to work at the reduced rates.

After a total suspension for six years, navigation has been resumed in the Alexandria Canal, in Maryland.

We received our first report of coal shipped over the Lehigh Canal this week; it will be found in its proper place.

J. S. Atwood, of Messrs. Quintard, Ward & Co., Philadelphia, has our thanks for valuable tabular list of freights from Port Richmond.

The following is the quantity of coal shipped over the principal roads for the week ending April 13, 1867:

	1866. WEEK.	1866. TOTAL.	1867. WEEK.	1867. TOTAL.	DECR'SE
Phil. & Reading R.R.	77,854	916,013	62,176	791,393	124,620
Schuylkill Canal	36,505	136,283	25,819	93,967	42,316
Lehigh Val. R. R.	29,652	555,476	34,661	430,691	124,784
Lehigh Canal	17,809	20,398	.....	.....	.....
Del & Hudson	25,960	25,960	43,220	108,605	82,645
Scranton North	7,814	344,571	6,997	440,508	95,397
Scranton South	22,893	.....	28,190	.....	.....
Penn'a. Coal Co. Rail	.....	99,593	19,823	160,222	60,630
" " Canal	.....	.....	687	.....	.....
Wyoming North	.....	.....	.....	.....	.....
Wyoming South	.....	.....	.....	.....	.....
Shamokin	8,813	101,725	11,823	99,868	1,857
Trevorton	.....	.....	497	4,894	.....
Short Mountain	.....	6,137	28	5,006	1,131
L. V. Co	.....	2,740	1,365	8,863	6,123
Broad Top	.....	55,161	6,815	57,339	2,178
Williamsto'n	.....	.....	1,207	11,528	.....
Total	227,300	3,114,057	243,406	2,212,484	.....
Cor'ng time last year	.....	2,212,484	.....	.....	.....
Decrease	.....	901,573	.....	.....	.....

Lehigh and Mahanoy Coal Trade,

For week ending April 13, 1867.

NAMES OF SHIPPERS.	WEEK	TOTAL.
Trenton Coal Co	130 10	528 08
Mount Etna	.....	43 04
Mahanoy Coal Co	1,922 03	3,513 16
Delano Colliery	1,389 09	21,505 14
Glendon Coal Co	988 16	6,709 06
Rathburn, Stearns & Co	182 05	12,422 15
E. S. Silliman	2,114 09	32,107 07
McNeal Coal & Iron Co	2,582 14	21,589 17
Knickerbocker Coal Co	734 14	17,123 17
Thomas Coal Co	838 07	5,933 04
Williams & Herring	240 10	3,829 14
Other shippers	.....	10 02
Total	10,203 17	125,588 04
Corresponding week last year	4,026 11	74,701 07
Increase	6,177 06	50,886 17
Decrease	.....	.....

Schuylkill Coal Trade.

BY RAILROAD & CANAL, FOR WEEK ENDING APRIL 18, 1867.

	Railroad.	Canal.
St. Clair	26,271	.....
Port Carbon	7,927	.....
Pottsville	71	.....
Schuylkill Haven	13,048	.....
Auburn	3,267	.....
Port Clinton	11,231	.....
Total for week	62,176	25,819
Previously this year	729,217	68,148
Total	791,393	93,967

Cumberland Coal Trade by Railroad.

Statement of Coal Shipments over the Baltimore & Ohio Railroad for the week ending April 13:

From Cumberland & Pennsylvania R. R.	Tons.
American Company	767 10
Consolidation Co	1,425 09
Borden	1,463 06
From Eckhart R. R.	
C. C. & I. C	687 02
Blaen Avon Company	339 10
Spruce Hill	89 18
Total	4,793 15
GAS COAL.	Tons.
From Mines West of Piedmont	2,660 00

Lehigh Coal Trade.

SHIPPED FOR THE WEEK ENDING APRIL 13, 1867.

SHIPPERS.	Canal Tons. cwt.	Railroad Tons. cwt.	Total by Canal & R. to date. Tons. cwt.
Lehigh Coal & Navigation Co.	.....	.....	.....
Packer, Skeer & Co.	90 10	.....	90 10
John Laubach & Co.	.....	.....	.....
E. S. Silliman	.....	2,050 04	31,759 16
Thomas Coal Co.	.....	939 10	6,083 03
Williams & Herring	.....	245 10	3,844 06
W. T. Carter & Co. (Coleraine)	.....	2,536 17	28,346 01
Spring Mountain Coal Co.	96 00	2,155 03	25,488 07
Thomas Hull & Co. (N. Y. & Lehigh Co)	.....	.....	21,931 14
Honey Brook Coal Co.	.....	.....	30,057 13
German Pennsylvania Coal Co	.....	.....	8,096 05
McNeal Coal and Iron Co	.....	2,995 15	22,076 04
Knickerbocker Anthr. Coal Co.	96 12	728 01	16,878 16
North Mahany Mines (Mahanoy Col. now B. & C.	.....	1,232 12	3,503 02
Delano do	.....	1,536 13	21,421 19
Primrose Mines (Rathbun, Stearns & Co.)	.....	253 07	12,619 13
Walter, Brothers & Co. (now Bedford & Cox)	.....	.....	.....
Mount Etna Coal Co.	.....	.....	58 07
Trenton Coal Co.	.....	130 10	528 03
Glendon Coal Co. (Glendon Colliery)	.....	840 05	6,540 03
East Boston	.....	.....	505 14
Morris & Essex M. C. Co.	.....	56 19	2,858 17
H. B. Hillman & Co.	.....	119 03	4,158 15
Bowkley, Price & Co.	.....	97 10	1,359 02
A. Parlee & Co. (Hazleton)	714 13	3,621 09	5,962 00
G. B. Markle & Co. (Jeddo)	452 02	2,786 14	12,585 03
Wm. S. Halsey & Co. (Mt. Pleasant)	.....	.....	342 08
Buck Mountain Coal Co.	1,538 03	1,087 14	8,727 04
Sharpe, Weiss & Co. (Council Ridge)	1,035 09	1,328 18	14,033 10
Coxe, Brothers & Co. (Cross Creek)	96 05	771 01	2,035 16
Ebervale Coal Co	520 03	1,449 12	3,599 16
Stout Coal Co.	443 08	238 08	1,230 06
Harleigh Coal Co	.....	771 19	1,187 17
Ashburton Coal Co.	.....	.....	37 10
T. F. Hunt & Co	.....	24 09	518 00
U. Lehigh & Co.	.....	1,162 00	3,983 03
East Sugar Loaf.	.....	1,372 16	7,814 07
Baltimore Coal Co	277 16	653 09	20,177 18
Wilkes Barre Coal and Iron Co.	2,147 03	1,396 19	36,064 17
Franklin Coal Co	286 00	154 12	7,270 16
Auberried Impe'v't & Coal Co	313 02	101 00	3,392 14
Germania Coal Co.	91 15	175 10	7,149 12
Lehigh & Susquehanna Coal Co.	191 07	270 09	8,508 10
New Jersey Coal Co.	.....	214 17	6,824 07
Warrior Run Mining Co.	96 00	224 18	4,043 19
Union Coal Co	371 01	196 13	7,335 17
Wyoming Coal & Transp'n Co.	367 05	146 13	11,568 19
Parish & Thomas	.....	546 00	15,942 07
[illegible] Coal Co	60 14	.....	60 14
Other Shippers	94 18	138 08	233 06
[illegible] Coal Co	278 04	90 10	625 10
Beaver Meadow (D. W.)	.....	.....	58 06
John Comery	.....	37 14	1,031 06
Total	9,658 10	34,661 08	440,349 02

Prices of Coal by the Cargo.

[CORRECTED WEEKLY.]

At New York, April 19, 1867

Schuylkill Red Ash, choice	$6 25@	$6 50
" Ordinary	5 50	6 00
" White Ash Lump	5 50	5 75
" Steamboat	5 50	5 75
" Broken	5 50	5 75
" Egg	5 50	6 00
" Stove	5 50	6 00
" Chestnut	4 75	5 00
Lehigh White Ash Lump	5 75	....
" Broken	5 50	....
" Egg	5 50	....
" Stove	5 75	....
" Chestnut	5 00	....
Wilkesbarre Lump	5 25	....
" Broken & Egg	5 50	....
" Stove	5 75	....
" Chestnut	5 25	....
Wyoming Lump	5 00	....
" Steamboat	5 25	....
" Stove	5 50	....
" Chestnut	4 75	....

SPECIAL COALS.

Diamond Vein Red Ash, Schuylkill	6 25	....
Locust Dale White Ash, "	5 75	....
Honey Brook " " Lehigh	5 75	....
Sugar Loaf " " "	5 75	....
Room Run " " "	5 75	....
Old Company's " " "	5 75	....
Harleigh " " "	5 75	....
Spring Mountain " " "	5 75	....
Sugar Creek " " "	5 75	....
Silver Brook " " "	5 75	....
Fulton White Ash	5 75	....
Stout	5 75	....
Buck Ridge " " Shamokin	5 75	....
Spohn & Lewis	6 50	....
Shenandoah	5 75	....
Swatara Falls, Red Ash	6 00	....
Henry Heils, E. Franklin, Lorberry	6 00	....
New England Red Ash	5 75	....
Broad Mountain	5 50	....
Wyoming	5 50	....
McNeal Co.	5 75	....
George's Creek (Balt.)	5 25	....
" " (Georgetown)	5 00	....
Locust Mountain (Repplier)	5 75	....
Duncan Red Ash "	6 25	....
Blossburg & Fall Creek	6 25	....
New Burgh Orrell Gas Coal	9 50	....
Despard Gas Coal	9 00	....
Westmoreland Gas Coal	10 00	....
Wilkesbarre Coal & Iron Co.	5 50	....

Agents for these Coals may be found in our advertising columns

At Philadelphia, April 19, 1867.

Lehigh Lump and Steamboat	$5 25@	.. ..
" Broken and Egg	5 00	5 25
" Stove	5 00	5 25
" Chestnut	4 75	.. ..
Schuylkill Red Ash Prepared	5 00	5 50
" Chestnut	3 50	.. ..
" White Ash Lump and Steamboat	4 25	4 50
" Broken	4 25	.. ..
" Egg and Stove	4 25	4 50
" Chestnut	3 75	4 00
Locust Mt. Lump, and Steamboat	4 25	5 00
" Broken	4 35	.. ..
" Prepared	4 50	.. ..
" Chestnut	3 50	.. ..
Lorberry Coal	4 75	.. ..
Shamokin	5 00	.. ..
Franklin. (Lykens Valley)	5 00	.. ..
Broad Top	5 00	5 25

Scranton Coal at Elizabethport, April 19, 1867.

Lump	$4 50@	— —
Steamer	5 50	— —
Grate	5 50	— —
Egg	5 25	— —
Stove	5 50	— —
Chestnut	4 50	— —

Prices for Pittston Coal at Newburgh, April 19 1867.

Lump, per ton of 2240 lbs	$5 20	.. ..
Steamer, " " "	5 30	.. ..
Grate " " "	5 35	.. ..
Egg " " "	5 45	.. ..
Stove " "	5 70	.. ..
Chestnut "	4 40	.. ..

70 cents additional to New York.

Lackawanna at Rondout, April 19, 1867.

(Average contract prices for year.)

Lump	5 00	@.. ..
Steamer	5 10	@.. ..
Grate	5 20	@.. ..
Egg	5 40	@.. ..
Stove	5 55	@.. ..
Chestnut	4 60	@.. ..
Pea	4 00	@.. ..

Lehigh Coal at Elizabethport, April 19, 1867.

Lump	5 75@	.. ..
Steamboat and Broken	5 50	— —
Egg	5 50	— —
Chestnut	5 00	— —
Stove	5 75	— —

At Baltimore April 19, 1867.

Wilkesbarre & Pittston W. A., wholesale	$7 00@	$7 25
" " " retail	7 75	8 00
Lykens Valley & Sunbury R. A., wholesale	7 00	7 25
" " " retail	7 75	8 00

George's Creek and Cumberland Coal.

Run of mine, f. o. b. at Locust Point	$5 25@	.. ..
At Georgetown	5 00	.. ..

Wilkesbarre Coal at Elizabethport.

Lump	5 00	.. ..
Steamer	5 25	.. ..
Broken	5 30	.. ..
Egg	5 30	.. ..
Stove	5 50	.. ..
Chestnut	4 75	.. ..

(From the Mercantile Gazette.)

At San Francisco, April 9, 1867.

Duty Bituminous $1.25. Other kinds 40 cents per ton

Australian	$12 00@	....
Do Wallsend	12 00	13 00
Pittston, ton	14 50	.. ..
Lehigh	17 00	.. ..
Cumberland, cks	....	27 00
do bulk	23 00	.. ..
Scranton	14 50	.. ..
Liverpool	13 00	.. ..
Scotch	14 00	.. ..
West Hartly	14 00	.. ..
Vancouver Island	13 00	.. ..
Bellingham Bay	10 00	.. ..
California	6 00	8 00

Prices of Provincial Coals.

[REPORTED FOR THE JOURNAL OF MINING.]

BY LOUIS J. BELLONI, JR., 43 Pine street, N. Y.

Duty $1.25 per ton.

Block House (on board)	$2 00	gold
Gowrie "	1 75	"
Lingan "	1 75	"
Sidney "	2 25	"
Pictou "	2 25	"
Glace Bay "	1 87½	"
International Co.'s "	1 75	"
Slack Coal "	75@1 00	"

Prices of Foreign Coals.

[REPORTED FOR THE JOURNAL OF MINING.]

BY H. L. PARMELE & BRO., 32 Pine street, N. Y.

Duty $1.25 per ton.

Liverpool Gas Caking	$10 50
" " Cannel	13 00
" House "	16 00
" " Orrel	16 00

Per ton 2240 lbs.

PRICES FROM YARD:

Liverpool Orrell, screened	20 00
" Cannel, "	22 00

per ton 2000 lbs. delivered.

Coal Freights.

(Corrected Weekly.)

From Elizabethport.

Albany	$1 00@	— —	New London	1 25@	— —
Boston	1 75	1 80	Newport	1 50	— —
Bridgeport	1 00	— —	New York	55	— —
Fall River	1 50	— —	Norwalk	1 00	— —
Hartford	1 50	— —	Norwich	1 30	— —
Hudson	1 00	— —	Pawtucket	1 75	— —
Lynn	— —	— —	Portland	2 00	— —
Middletown	1 25	— —	Portsmouth	2 15	— —
New Bedford	1 40	— —	Providence	1 50	— —
Newburyport	2 25	— —	Salem	2 00	— —
New Haven	1 00	— —	Taunton	1 40	— —

From Port Richmond, Philadelphia.

Albany (& towing)	$1 80@	— —	Mobile	4 00	— —
Alexandria	1 60	— —	Middletown	1 40	— —
Amesbury Point	3 25	— —	Mantucket	2 75	— —
Appanoag	2 00	— —	Neponsett	2 75	— —
Aspinwall	— —	— —	New Bedford	2 25	— —
Bangor	2 50	— —	Newburg	1 60	— —
Bath	2 80	— —	Newburyport	2 80	— —
Baker's Landing	— —	— —	New Haven	1 90	— —
Bedford	— —	— —	New London	2 25	— —
Bellast	3 00	— —	Newport	2 25	— —
Boston	2 50	— —	Newport, R. I.	2 10	— —
" bridges	03	— —	New York	1 25	— —
Bridgeport	2 15	— —	Norfolk & tow	1 50	— —
Bristol	2 00	— —	Norwalk	1 45	— —
Beverly	2 75	— —	Norwich & tow	2 25	— —
Calais	3 50	2 78	Pawtucket and tow	2 25	— —
Cambridgeport	3 00	— —	Petersburg	2 00	— —
Catskill (& tow)	2 00	— —	Philadelphia	— —	— —
Charleston, S. C.	2 25	— —	Portland	2 50	2 80
Charlestown	2 70	— —	Portsmouth, N. H.	2 80	2 90
Chelsea	2 50	— —	Providence	2 00	— —
Commercial Point	2 75	— —	Provincetown	2 05	2 25
Cohasset Narrows	2 75	— —	Poughkeepsie, & t'g	1 60	— —
Daversport and dis	2 75	— —	Port Chester	1 60	— —
Delaware City	— 80	— —	Plymouth	2 75	— —
Dighton	2 30	— —	Richmond, Va	2 00	— —
Dover	2 90	— —	Rockland	— —	— —
East Cambridge	2 75	— —	Roxbury	2 75	— —
East Greenwich	2 25	— —	saugus	2 50	— —
Elizabethport	— —	— —	Sing Sing	1 60	— —
Fall River	2 00	— —	St. Johns (in gold)	2 00	— —
Fort Monroe	1 60	— —	Salem	2 50	— —
Fredericksburg	1 75	— —	Savannah, Ga	2 25	— —
Gardiner	3 00	— —	Stonington	2 25	— —
Georgetown	1 60	— —	Taunton	2 50	— —
Gloucester	2 75	— —	Washington, D. C.	1 00	— —
Greenpoint Towing	1 45	— —	West Point & tow	1 70	— —
Hartford	2 75	— —	Wilmington	1 00	— —
key West	2 50	— —	Williamsburg	2 87	— —
Lynn	2 75	— —	Winterport	2 00	— —
Milton	3 85	— —	Yarmouth	3 12½	— —
Malden	3 20@	— —			

From Rondout.

River.		Eastern.	
Albany	50@	Boston	2 10@ .. ..
Barrytown	35	Bridgeport	1 35 .. ..
Catskill	40	Bristol	1 50 .. ..
Cold Spring	30	Dighton	1 55 .. ..
Coeymans	50	Fall River	1 50 .. ..
Coxsackie	45	Mystic	1 40 .. ..
Fishkill Landing	20	New Haven	1 30 .. ..
Greenbush	55	New London	1 40 .. ..
Haverstraw	45	Newport	1 50 .. ..
Hudson	45	Norwalk	1 25 .. ..
New York	65	Norwich	1 50 .. ..
Nyack	55	Pawtucket	1 75 .. ..
Peekskill	45	Providence	1 55 .. ..
Poughkeepsie	30	Stamford	1 30 .. ..
Rhinebeck	35	Stonington	1 40 .. ..
Saugerties	45	Warren	1 55 .. ..
Sing Sing	55		
Stuyvesant	50		
Tarrytown	55		
Troy	65		
West Point	35		
West Troy	60		
Yonkers	55		

From Newburgh.

River. Co.'s Boats.		Eastern.	
Albany	50@	Boston	1 75@ .. ..
Barrytown	35	Bridgeport	1 12½ .. ..
Catskill	35	Bristol	1 40 .. ..
Cold Spring	30	Dighton	1 45 .. ..
Coeymans	45	Fall River	1 40 .. ..
Coxsackie	40	Mystic	1 30 .. ..
Fishkill Landing	20	New Haven	1 12½ .. ..
Greenbush	50	New London	1 30 .. ..
Haverstraw	45	Newport	1 40 .. ..
Hudson	35	Norwalk	1 12½ .. ..
New York	70	Norwich	1 40 .. ..
Nyack	50	Pawtucket	1 65 .. ..
Peekskill	40	Providence	1 45 .. ..
Poughkeepsie	25	Stamford	1 12½ .. ..
Rhinebeck	30	Stonington	1 30 .. ..
Saugerties	35	Warren	1 45 .. ..
Sing Sing	50		
Stuyvesant	40		
Tarrytown	50		
Troy	55		
West Point	30		
West Troy	55		
Yonkers	55		

From Georgetown or Alexandria.

To Philadelphia	$1 60	— — Boston	3 00 3 25
New York	2 25	2 50 Sound Ports	2 75 3 00

From Baltimore.

To Philadelphia	$1 40@	1 50 Boston	3 00@ 3 25
New York	2 25	2 50 Sound Ports	2 75@ 3 50

Provincial Freights.

	Currency.
Sydney to N. Y.	$3 50
Lingan	3 75
Cow Bay	3 75
Big Glace Bay	4 50
Little "	3 75

Foreign Freights.

New Castle and Ports on Tyne	18£@ keel.
Liverpool	11s.@ 12s.6d.

Rates of Transportation to Tide Water.

[BY RAILROAD.]

To Port Richmond.

Transportation from Schuylkill Haven to Pt. Richmond	$2 00
Freight from Pt. Richmond to New York	1 50
Total	$3 50
Drawback	50
	3 00

From Port Carbon 8 cents per ton more.

To Elizabethport

L. V. R. R. from Mauch Chunk to Easton	$ 81
C. R. R. of N. J., Easton to Elizabethport	1 22
	2 03
Shipping expenses at Elizabethport	28
Total	$2 31

To Port Johnson.

L. V. R. R.	$ 81
C. R. R. of N. J.	1 29
Shipping Expenses	25
Total	$2 35

To Hoboken.

L. V. R. R.	$ 81
Morris and Essex R. R.	1 29
Shipping Expenses	25
Extra to N. Y. or Hudson River Shipments	10
Total	$2 45

[BY CANAL.]

To Port Richmond.

From Schuylkill Haven to Port Richmond	$1 00
Freights and tolls by Raritan Canal	2 20
	$3 20
Drawback	20
Total	$3 00

To New York.

From Mauch Chunk to New Brunswick—	
By Lehigh: Del. Div. and Del. and Raritan Canal.	90
Freights through	1 25
Towage	22
	$2 37

To New York via Morris Canal.

Lehigh Canal	34
Morris "	50
Towage	10
Freight	1 45
Total	$2 39

Expenses from Mauch Chunk to Jersey City for Re-shipment.

Lehigh tolls (net)	34
Morris "	41
Freight	1 40
Re-shipping	30
Total	$2 45

BOSTON STOCK MARKET.

(By Telegraph.)

BOSTON, April 12, 1867.

Prices bid to-day were as follows:

Canada	40c.	Minnesota	..
Copper Falls	21½	Quincy	25
Franklin	20	Cary Improvement	8¾
Hancock	5½	Rockland	..
Huron	7½	Water Power	28⅝
Isle Royal	..	Central	..

Sales at Boston Stock Exchange, April 11.

150 shs	Water Power	29½	100 shs	Native	1½
200 do	do	29¾	100 do	St. Clair b.60	4¼
350 do	do b.30	30¼	100 do	do	4
200 do	do	29⅝	500 do	Ophir	2
100 do	do b.30	30	100 do	Pewabic b.30	16
100 do	Waverly	2¼	50 do	do	15½
100 do	Franklin	20½		SECOND CALL.	
20 do	Hancock	5⅜	100 shs	Water Power	29½
200 do	Huron	8½	100 do	do	29¾

SAN FRANCISCO STOCK MARKET.

Latest by Telegraph.—April 15.

Name.	Bid per foot.	Name.	Bid per foot.
Gould & Curry	400	Crown Point	1325
Savage	2600	Yellow Jacket	1175
Chollar-Potosi	350	Belcher	175
Ophir	300	Alpha	200
Hale and Norcross	3500	Imperial per share	265
Cal. Steam Navigation Co.	1/272	Cal. State Telegraph Co	30

Weekly Coal Trade Circular.

NEW YORK, April 18, 1867.

Vessels at Philadelphia for Eastern ports have been more abundant the past week, and shipments are more active. Trade in and around this city moves along quietly at wholesale. The choice varieties are in fair demand at current quotations. It is not expected that prices can go lower, although many shrewd dealers think that bottom is not yet reached. One thing is certain, coal—reduced to a *gold* value—is selling cheaper than it ever has done heretofore, so that the risk to the buyer of purchasing now is certainly not very great—with the chances all in his favor. Flour has advanced to $17 in the coal region, and the men are not satisfied at present rate of wages. Flour must come down or coal must advance to correspond. P.

FOREIGN MARKET REVIEW.

Metal Report.

LONDON, E. C., March 22, 1867.

Very little business has been done in the Metal Market since our last report. Holders are more inclined to accept lower quotations, but operators and consumers only buy for their most pressing requirements.

IRON.—Prices for Welsh and Staffordshire iron are without change, with a very limited demand. Scotch pig iron has gradually declined to 51s. 6d. cash.

COPPER.—The last Chili mail having again advised large shipments of bars, the pressure to realize has continued, and lower prices have been accepted for Foreign and English copper. Burra attainable at £84, and Wallaroo has been done at £84 and £83. English quite nominal. Chili bars in Liverpool, sellers at £73.

TIN.—The market is somewhat quieter, and several sales of Straits have been made at £98 cash, and with prompt. Banca, £93. The Dutch market, after a temporary quietness, has again assumed a firmer tone, with buyers at 55¾ fl. spot and ex the gale. The English smelters advanced on the 19th the price of refined and common tin £2 per ton, making the present quotations as follows: Refined, £95; bars, £93; block and ingots, £92.

TIN-PLATES are quiet, without any change from previous quotations.

SPELTER.—Very little business has transpired, the price on the spot remains at £21 15s. for common London and Special outports.

VON DADELSZEN & NORTH.

New Roasting Furnace.

We were shown a few days since, says the Central City (Cal.) *Register*, drawings of a new roasting furnace, invented and being gotten up by Dr. Phelps, of Black Hawk. It is a sort of terrace furnace. The hearth is, to use a homely illustration, a flight of broad stairs, with each stair inclining forward. The fire chamber is at the bottom of a series of terraces, and the flame and heat from it passes upward and over them as through a flue. The ore is admitted at the top through a hopper, and is heated and roasted as it descends from one terrace to another, by its own force of gravity, just as a ten-pin ball would if dropped on the upper one of a flight of stairs. The ore is roasted both as it passes along the broad inclined plain of each terrace, and as it falls from one to another, combining the principles of roasting in suspension, and as in a reverberatory furnace. At the base of each terrace a perforated pipe is introduced for the admission of air in superheated steam as may be desired. Thus, in falling from one terrace to another, the ore may be forced to pass through a jet of either or both of these desulphurizing and oxydizing agents, while the flame is constantly passing up the terraces, instead of down, as the ore does. As the fumes of the furnace leave the terraces they are compelled to pass through a spray of cold water, which condences any of the valuable metals or minerals which may pass over, and even the sulphurous acid and native sulphur.

Washing Coal, Ores, &c.

Mr. John Addison Birkbeck, of Chesterfield, mechanical engineer, has patented certain "improvements in washing coal, ores, and other minerals," which he thus describes: This invention consists in dividing or reducing the minerals to be treated into fragments of various sizes, which are then to be separated or screened and assorted, and collected into lots or parcels, each composed of fragments of uniform or nearly uniform size. The fragments of the same size assorted as aforesaid, are to be placed upon perforated plates or false bottoms contained in washing vessels, and water is then forced up through the perforated plate or false bottom, either by a constant or intermittent stream, or by means of jets or pulsations, and this may be effected by means of a double-acting displacer or pump, or by the aid of a head of water regulated by cocks or valves. The result is the separation of the minerals or materials operated upon according to their several specific gravities, those of the highest specific gravity being found at the bottom, and those of the lowest specific gravity at the upper part of the layer, and these minerals or materials also separately deposited in receptacles as may be required by the continued operation of the machinery —*Colliery Guardian.*

Saving Gold from Quartz.

A California exchange says that Mr. E. R. Chapin, of Stockton, has succeeded in inventing a very ingenious contrivance for saving gold lost from quartz. It is entirely different from any concentrator or separator that has been used by miners hitherto. It consists of a shallow pan called the separator, elevated an inch above the concentrator, which first receives the water sediment, quicksilver and gold escaping from the mill above. The bottom of the separator being deeper than the sides or mouth where the water flows over, the quicksilver and gold naturally settle down, while the light gold and sulphurets flow over with the water into the concentrator, which looks somewhat in shape like a soup tureen. Small holes are perforated in the bottom of this concentrator, through which the sulphurets pass into small pans fastened beneath, while everything else flows over the top into the conductors, which carry it away. The machine is fastened on four stout wires, each fastened at the bottom in a strong frame work. Diminutive cog-wheels attached to a cylinder, which, kept in motion by the action of the mill above, set the machine in motion.

☞ **A negro in Pennsylvania lately gave his idea of faith in God's promises in the following words:** "Dar is dat brick wall, and de Lord he stand dar and say to me, 'Now, I want you to go troo dar.' I ain't agoing to say, 'Lord, I can't.' I got nuffin to do about it. All I hav to do is to butt against it, and it's de Lord's business to put me troo."

☞ **According to the "Merchants' Magazine," the** number of Cornish pumping engines reported for January is 24. They have consumed 2,187 tons of coal, and lifted 175,000,000 tons of water ten fathoms high. The average duty of the whole is therefore 53,900,000 lbs., lifted one foot high, by the consumption of 112 lbs. of coal.

☞ **Cats are said to be at this moment in great demand at Lucerne,** in Switzerland, and to be selling at a high price, in consequence of a malady which has greatly decreased their numbers. The head of the animal swells rapidly, it refuses all nourishment, and soon drops down dead.

☞ **Puddling is performed in a number of English** iron-works by a sort of automatic machine driven by steam, closely imitating the movements of the puddling tool as worked by hand, and giving, as claimed, an economy of nearly half in the consumption of fuel.

☞ **The Swansea Furnace is said to possess many** advantages. It destroys all foreign substances found in ore. It is very economical, for although an intense heat is requisite, no fuel is ever used after the first fire is lit, the sulphur of the ore supplying all that is required for combustion. The furnace is described as a vertical chamber made of firebricks, into which a a series of bars of fire-bricks are inserted. These bars are angular, with the base uppermost. From a feed-box the ore is allowed to drop in, in the form of finely powdered sand, and subjected to an intense heat. A rapid volatilization of all sulphurous matter ensues.

☞ **The cost of mining in Europe, and the care** taken of those engaged in it, may be understood from an account of what is done at Magenay, in France. The wages, on an average, of the miners, is three francs a day. The owners of the mine, MM. Schneider, have erected suitable dwelling houses, and a store in which articles may be bought at cost price. Those who have families rent, for about six francs per month, two rooms, a closet, a cellar, and a small garden. The unmarried men board with their married comrades, paying about eight francs a week.

☞ **Accidents from coal oil would not be so frequent** were people to observe the following directions: Place the lamp on a steady table, keep it out of the way of young people, see that the oil is first class and able to bear a heat of 110 deg. Fahrenheit. The best coal oil is exported. The following is a good test for quality: Fill a tumbler about two-thirds full of water, and put in a teaspoonful of oil, stir the water and place a lighted match in the ascending vapor. If this inflames do not use the oil.

☞ **The Cleveland ironmasters are able to produce** pig iron at a considerable saving, by building furnaces of 25 feet inside diameter and 85 feet high, and some are being built 27 feet in the boshes, and 102 feet high. The saving of coke by smelting the same quantity of ore in a 25-foot bosh furnace and smelting it in a 15-foot one, is above 20-per cent., and by using the blast at a temperature of 1000 deg. instead of 700 deg., the saving may be safely taken at 15 per cent.

☞ **The lead products of Wisconsin are very rich.** On two sections of land in Grant county, 140,000,000 lbs. have been raised, valued at $7,700,000. From Galena, up to 1857, there were shipped 820,522,999 lbs. of lead. It is calculated that in the Upper Mississippi mines one thousand million pounds have been raised. Much richer deposits are expected.

Special Notices.

Stevenson's Helical Jonval Turbine.

At a trial of water wheels at the Fairmount Works in Philadelphia, in 1859–60, at which nineteen wheels were tested, J. E. Stevenson bore off the following certificate:

DEPARTMENT FOR SUPPLYING THE CITY WITH WATER, CHIEF ENGINEER'S OFFICE, PHILADELPHIA.

At a trial of water wheels at Fairmount Works, by order of the Select and Common Council of the City of Philadelphia, a Jonval Turbine, made by "J. E. Stevenson," of Paterson, New Jersey, was tested March 9th, 1860, and produced a co-efficient of useful effect of 8777 per cent. under the following circumstances: 925 pounds were raised 25 feet by 70·25 cubic feet of water under a head and fall of six feet. To this must be added the friction of the transmitting machinery, estimated at three per cent., making a total useful effect of .9077 per cent of the power employed.

O. H. P. PARKER,
Chairman of the Water Committee.
HENRY P. M. BIRKINBINE,
Chief Engineer.

Seal of City

In attestation of the above signatures of O. H. P. Parker and Henry P. M. Birkinbine, I set my hand and affix the seal of the city of Philadelphia, this 3d day of April, 1860.

ALEXANDER HENRY,
Mayor of Philadelphia.

We have seen other certificates from manufacturers, attesting the worth of this wheel.

Inventor and Engineer.

We have received No. 3, Vol. I., of this new illustrated weekly paper, from Messrs. J. B. Turchin & Co., publishers, No. 133 Dearborn street, Chicago. It is devoted to the interests of Western inventors and engineers, civil, railroad, and mechanical, and comprises, in eight pages, interesting original matter and selections valuable to such. In the copy before us we notice an excellent illustration of the proposed railway tunnel across the British Channel. We believe there is room for a well conducted journal of this class in the West, and think we discern the germ of such a paper in the publication before us,—$1 50 a year in advance.

The Telegraphic Journal.

A new weekly paper, published by J. A. Borst, 100 Nassau street, N. Y., and devoted to the whole telegraphic fraternity. The copy on our table (No. 2, Vol. I.) is filled with news from all sections of the country, and other interesting miscellaneous matter touching telegraphy.

J. E. CLAYTON, M. E., leaves in the steamer to-day for San Francisco. He goes to take charge of, and develop the property of the Silver Peak and Red Mountain Mining Company in Southern Nevada.

Dr. Willing and party sail for San Francisco to-day, *en route* to Arizona. They go to develop their mines in that Territory. We expect to hear from the Doctor some interesting details respecting the resources of Arizona.

MORE PRESS NOTICES.

[*From the Millbrook Messenger, (C. W.) March 27, 1867.*]

AMERICAN JOURNAL OF MINING.—In this *golden* age, no one, having taken the mining fever, can do without this valuable publication. Useful to all.

[*From the Southeast Missouri (Ironton,) Enterprise, March 30, 1867.*]

The AMERICAN JOURNAL OF MINING, published in New York City, by Western & Co., is among our most highly prized exchanges. The JOURNAL is a necessity to those of our citizens engaged in mining operations, and we hope to see it liberally patronized. Call at this office and see specimen copies.

[*From the Valpariso (Ind.) Republican, March 28, 1867.*]

AMERICAN JOURNAL OF MINING.—This fine sheet, published at 37 Park Row, New York, by Western & Co., is very interesting to all concerned in mining. It has recently been enlarged to twenty pages, making it one of the largest papers in the country.

[*From the Prarie Telegraph, (Rensselaer, Ind.) April 4, 1867.*]

AMERICAN JOURNAL OF MINING.—This is a quarto of twenty pages. It is the largest and most comprehensive journal of mining on this continent, representing gold, silver, copper, iron, lead, coal, slate, oil and whatever else comes under the head of mining. Western & Co., New York; $4 per annum. This is an able scientific and historical journal, containing highly interesting statistics on everything pertaining to its great leading feature of mines and minerals.

[*From the Portsmouth (N. H.) Chronicle, March 23.*]

In consequence of the success of the AMERICAN JOURNAL OF MINING, it will be enlarged to twenty pages with the number for the week ending March 30, when it begins its third volume. It furnishes a great deal of information, valuable in a country with such mineral wealth as our land can boast. Four dollars a year. Western & Co., publishers, 37 Park Row, New York.

[*From the Boston Commercial Bulletin, March 23.*]

The AMERICAN JOURNAL OF MINING, an able and enterprising organ of the mining interests of this country, published at 37 Park Row, New York City, is about to be enlarged. In its new form it will present twenty pages of valuable and interesting matter relating to mines and mining.

[*From the Pottsville Standard, March 23.*]

We invite attention to the prospectus of the AMERICAN JOURNAL OF MINING in our advertising columns. This is the most complete and reliable publication of its kind in the country, and we commend it to the attention of all interested in mines or mining.

[*From the Pottsville Miners' Journal, March 23.*]

AMERICAN JOURNAL OF MINING.—In consequence of the success of the AMERICAN JOURNAL OF MINING, Messrs. Western & Company, the publishers, will, on the 30th instant, enlarge it to twenty pages, thus making it one of the largest and most comprehensive mining journals in the country. Our contemporary is most carefully and ably conducted, and is fully worthy of the success which it has met.

TENDERS are invited for fifty Cast-Iron Pans 10 feet diameter, 2 feet deep, ⅝ thick, not to exceed 2.500 pounds each, to be delivered at Sing Sing on the Hudson River. It is requested that none but those who can give prompt delivery will reply to G. H., American Journal of Mining Office, New York 4:1t

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NEW YORK, April 12, 1867.

The Delaware, Lackawanna and Western Railroad Company will sell, by Messrs. John H. Draper & Co., Auctioneers, at the Company's Sales Room, 26 Exchange Place, corner of William street, New York, on Wednesday, April 24th, inst., at 12 o'clock, noon, **80,000 Tons of Fresh Mined Coal,** from the LACKAWANNA REGIONS, of the usual sizes, deliverable at their Depot, Elizabethport, N. J., during the month of May, 1867.

The sale will be positive; each lot put up will be sold to the highest bidder; no bids, in any form whatever, being made for account of, or on behalf the Company. The conditions will be fully made known at the time of sale.

TERMS:—Fifty cents per ton, payable in current funds, on the day of sale, and the balance within ten days thereafter, at the Office of the Company.

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MESSRS. WILLIAM MULLANY AND GEO. W. ESSER, of the firm of Jno. White, Wholesale Coal dealer, No. 8 Wall street, New York City, and Mauch Chunk, Pa., retire from said firm to-day by mutual agreement.

The business of the firm will be settled by Jno. White, at No. 8 Wall street, New York City.

JOHN WHITE.
WILLIAM MULLANY,
GEO. W. ESSER.

The undersigned beg leave to announce that they have this day formed a copartnership under the style of JOHN WHITE & CO., for the purpose of conducting a General Wholesale Coal Business, at No. 8 Wall street.

JOHN WHITE,
LOUIS T. SNOW,
Late Treas. McNeal Coal & Iron Co.
New York, March 1st, 1867. 25-2.px

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[From the Scientific American.]

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From the London Mining Journal, July 14, 1866.

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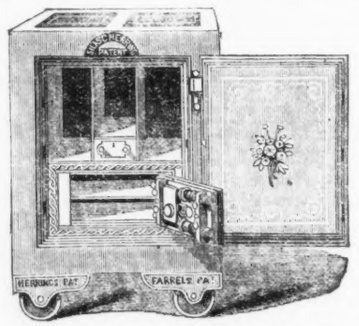

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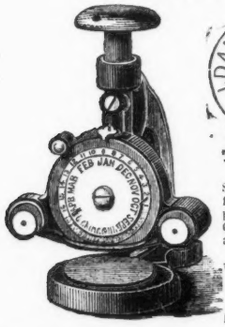

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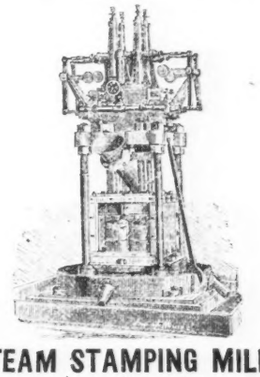

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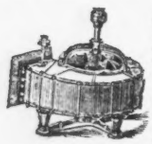

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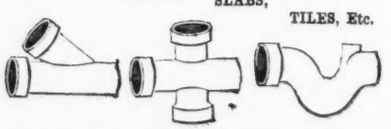

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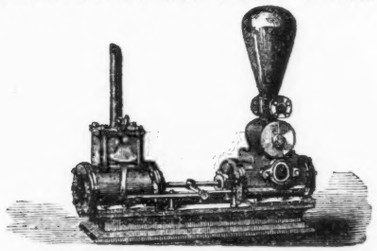

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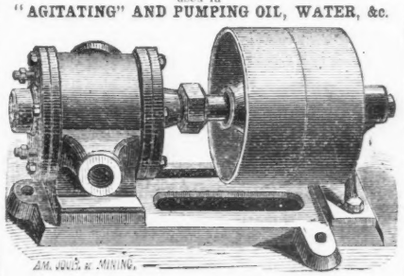

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Respectively, which, in the opinion of the Committee appointed for that purpose, shall be most suitable to the requirements of the trade, and the inventor of which shall comply with the regulations laid down by the Committee.
A copy of the regulations, and further particulars, will be furnished on application to the undersigned.
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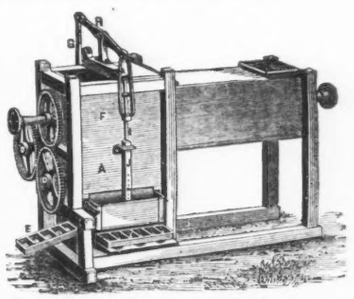

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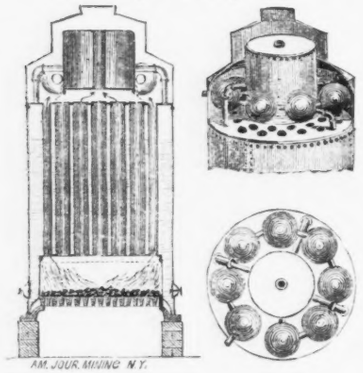

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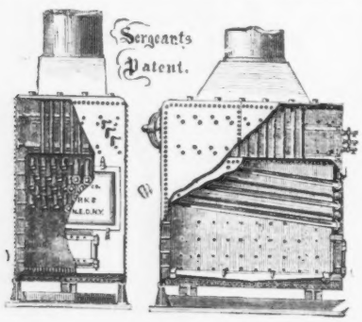

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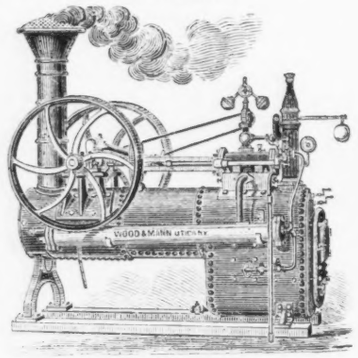

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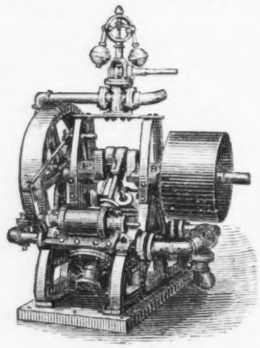

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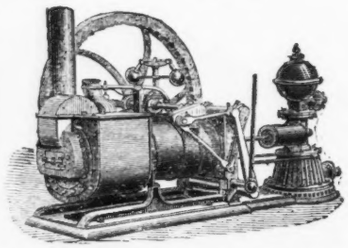

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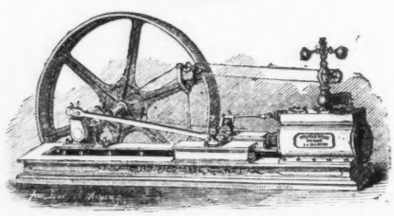

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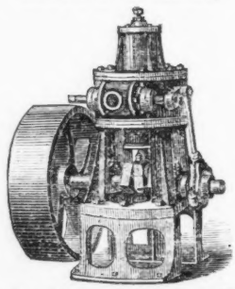

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